The Hong Kong Polytechnic University

The Department of Building and Real Estate

Pricing of Presale Properties with Asymmetric Information

by

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A thesis submitted in partial fulfillment of the requirements for the

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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 materials 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.

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Leung Yuk Ping, Barbara

To Roger and Lawrence

ABSTRACT

Property developers have increasingly used forward contracts to pre-sell their properties that are under construction in order to enhance their financial viability. With reference to the forward property market in Hong Kong, this research investigates how the specific hidden risks arising from asymmetric information embedded in forward property markets affect the pricing mechanism of presale properties.

A review of the forward property markets identifies that presale property buyers have to bear not only the additional market risk and the extra capital cost of finance transferred from the developers during the construction period compared to buying a spot property, they also have to bear the hidden presale risks arising from asymmetric information embedded in the forward property markets. Six hidden presale risks are found in Hong Kong and ranked with decreasing seriousness as unethical presale tactics, exaggeration of floor areas, features mismatch, building defects, delayed delivery and development default. This study has examined the roots of the problems which undermine the effectiveness of the presale policies to mitigate the hidden presale risks. The study also identifies the factors which are critical to the development of a forward property market.

To examine the price movement of presale properties with respect to the additional risks embedded in the forward market, a Forward Property Repeat Sales (FPRS) Model using forward-spot pair sales data was developed. This has been found to be a more efficient model in reflecting the general price change of the forward property market. In addition,

the study compares the FPRS Index and the spot price indices. It shows the price movement of presale properties in the forward market reconciled that of the spot properties during the study period from 1993 to 2005. However, in some years when the market was booming, the spot price indices were found to have fallen slightly behind the FPRS Index. This suggests that buyers had paid a premium on presale properties in order to hedge against the anticipated price appreciation, particularly when the market was booming.

A pricing model, the Forward-Spot Index Tracking (FSIT) Model encompassing the Hedonic Pricing Model, the Repeat Sales Price Model and the Single Index Model, was also developed for studying the pricing mechanism of presale properties containing asymmetric information. Statistical analyses of the FSIT Model show that presale property buyers had paid a price approximately 5% higher than those spot buyers for comparables properties, because of the hidden risks embedded in presale properties. This supports the proposition that developers are able to acquire a wealth transfer from presale property buyers to them on pricing of presale properties taking advantage of the asymmetric information inherent in the forward property market. The study is the first research of its kind to provide a comprehensive pricing framework for presale properties with asymmetric information. It also offers valuable findings to property practitioners, showing the extent of the extra amounts that buyers might have paid for the presales in order to get the properties that they desired.

PUBLICATIONS ARISING FROM THE THESIS

The research enables the successful publication of the following papers:

Journal papers

Leung, Y.P.B.; Hui, C.M.E. and Seabrooke, B. (2007) Pricing of presale properties with asymmetric information, *Journal of Real Estate Portfolio Management,* Vol. 13, No. 2, pp. 139-152.

Leung, Y.P.B.; Hui, C.M.E. and Seabrooke, B. (2007) Asymmetric information in the Hong Kong forward property market, *International Journal of Strategic Property Management,* Vol. 11, No. 2, pp. 91-106.

Leung, Y.P.B.; Hui, C.M.E. and Seabrooke, B. (2007) Risks transfer of presale properties and the construction of forward property price index, *Pacific Rim Property Research Journal*, Vol. 13, No. 2, pp. 194-212.

Conference Papers

Leung, Y.P.B. and Hui, C.M.E. (2005) Pricing of presale properties with construction uncertainties, *Proceedings*, 21st Annual Conference of the Association of Researchers in Construction Management, London, September 2005.

Leung, Y.P.B. and Hui, C.M.E. (2004) Risk-transfer mechanism embedded in forward property markets, *Proceedings,* Sustainability and Innovation in Construction and

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Leung, Y.P.B. and Hui, C.M.E. (2003) Pricing Model of Risk Premium Embedded in Forward Property Contracts, *Proceedings,* the XXXI World Congress of the International Association for Housing Science (IAHS), Montreal, 2003.

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABBREVIATIONS

AP	Authorized Person
APT	Arbitrage Pricing Theory
ASA	Ancillary Saleable Area
CAPM	Capital Asset Pricing Model
CC	Consumer Council
CCL	Centa-City Leading Index
CSA	Core Saleable Area
EAA	Estate Agent Authority
EPRC	Economic and Property Research Centre
FCRS	Forward Contract Repeat Sales
FPRS	Forward Property Repeat Sales Model
FSIT	Forward-Spot Index Tracking Model
GFA	Gross Floor Areas
HKIA	The Hong Kong Institute of Architects
HKIE	The Hong Kong Institution of Engineers
HKIS	The Hong Kong Institute of Surveyors
HKMA	Hong Kong Monetary Authority
HKURS	Repeat Sales Spot Property Price Index published by the Hong Kong University
HPM	Hedonic Price Model
IFA	Internal Floor Areas
LandsD	Lands Department
LRC	Law Reform Commission
NCC	National Consumer Council
OLS	Ordinary Least Square method
OP	Occupation Permit
REDA	Real Estate Developers' Association of Hong Kong
RSPM	Repeat Sales Pricing Model
RVD	Rating and Valuation Department

RVDSP	Property Price Index of Selected Popular Residential Developments published by RVD
SCC	Scottish Consumer Council
SFA	Saleable Floor Areas
SIM	Single Index Model
SPRD	Selected Popular Residential Developments
TOL	Tolerance Test
VIF	Variance Inflation Factor

CHAPTER 1 INTRODUCTION

1.1 Introduction

There has been a growing demand for housing in many big cities for the past twenty years, for example the housing booms found in Hong Kong, Singapore and Malaysia in the late 1980s and the early 1990s, and those found in London, Toronto and many cities in the U.S. in the late 1990s and the early 2000s. Although housing prices exhibit high volatility with periodic boom-bust fluctuations, people's desire to own their homes or to buy properties for investment is strong (Case *et al.*, 1993). To meet the growing demand, developers are investing more and more in building high-rise apartments, condominiums and large housing estates in these cities (Tang and Liu, 2001). Financing for these large-scale property developments, often over billions of dollars, is a major challenge faced by many developers. In order to alleviate the financial burden, there has been increasing use of forward contracts to sell uncompleted properties at the planning stage or during construction. These are known as presale properties, as opposed to spot properties which are sold upon their completion.

A forward property contract presents an agreement between a buyer and a developer. The buyer commits to buying a property to be completed in the future at a pre-specified price, known as presale price. The transfer of rights of such property is usually the date when the occupation permit (OP) of the building is issued. This is similar to financial forwards and futures[1], in that developers in a forward property market are selling shorts

[1] Difference between forward contracts and futures contracts can be found in Cox *et al.* (1981).

of uncompleted properties whereas purchasers are buying longs from the forward market for hedging against future price volatility of these properties (Case *et al.*, 1993). Furthermore, an investor who takes a long position in a forward/futures contract agrees to buy a designated good or asset on the maturity date at the forward/futures price prevailing at the time when the contract is initiated. No money changes hands initially and the purchase price is settled on the maturity date (Cox *et al.*, 1981).

Regarding presale properties, there is no central exchange market for trading this kind of commodity. When a purchase of a presale property is made, a substantial down-payment[2] has to be placed by the buyer and further periodic instalments are often required during the construction period (Chang and Ward, 1993; Chau *et al.*, 2003). Furthermore, there is no income received by the buyer from the uncompleted property in form of rental income before the settlement of the forward contract because the subject property is not yet ready for occupation. Hence, investing in a presale property cannot generate rental income to compensate for the cost of capital already invested during the construction time-lag, *i.e.* the time between the forward contract signed and the release of the OP.

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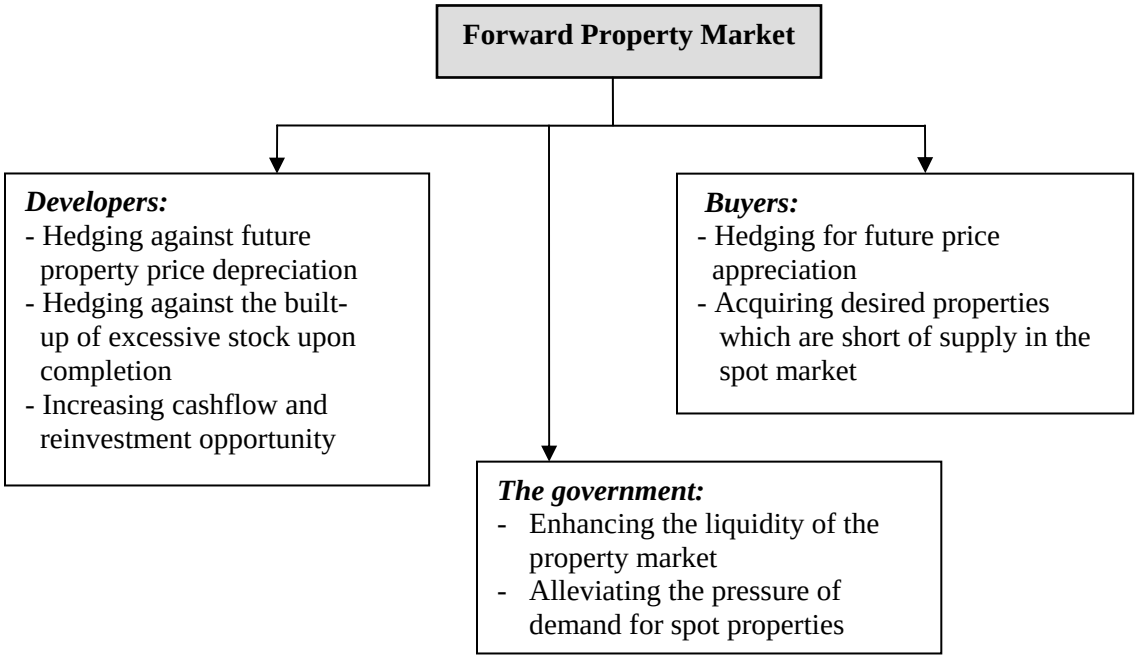
[2] For example, it is a common practice in Hong Kong that a presale property buyer is required to place a small deposit of say 5% of the purchase price when he agrees the purchase. He is then required to sign the preliminary Agreement for Sale and Purchase (ASP) with the developer within 7 days after the deposit is made. Usually, a down-payment of 15% to 20% of the purchase price is required to be settled after the signing of the preliminary ASP so as to protect the developer from buyers' back-out from their purchases (Apple Daily, 2005[a]). If the market is sluggish, developers may lower the down-payment to between 10% to 15% (Next Magazine, 2005).

This financing strategy using presale contracts to sell uncompleted properties has gained increasing popularity in many property markets because of the distinctive advantages it offers, as shown in Figure 1.1.

Figure 1.1 Benefits generated from property presales



From perspective of developers - Presales of uncompleted properties can improve not only the cashflow management of the developments, they can also help developers hedge against possible financial loss on the unsold properties if a price decline is expected by the time the construction is completed. This selective hedging is appraised as the use of presale markets by developers to increase efficiency in the price-forming process (Figlewski, 1981). On the other hand, if economic sentiment favors the property market, developers can use proceeds collected from presales to reinvest in other construction projects to generate further returns. Furthermore, presales can help developers hedge

against the building up of excessive stock upon completion of the construction (Chang and Ward, 1993). In some countries, like the U.S. and Canada, whether developers can obtain building loans from banks and financial institutions often rests on the number of units of the developments that have been pre-sold (Tribune, 2005).

From perspective of buyers - To the contrary, anticipatory hedging seems a more plausible explanation for a purchase of a presale property from the perspective of the buyers. The hedging instrument, in the form of a presale contract, serves as a temporary substitute for the said property which is under construction. The purpose of the hedge is to take advantage of the current price against any price appreciation of the property in future, in particular when a boom market is anticipated by the buyers. Presales of uncompleted properties can also offer more choice to both home-seekers and investors to look for their ideal homes/investments in terms of location choice and housing attributes, in particular when the market is experiencing a shortage of supply (Li, 1998).

From perspective of governments - It is also the intention of governments to promote and sustain healthy development of a presale property market. This can, on one hand, enhance the liquidity of the building industry and, on the other hand, can alleviate the pressure when there is a shortage of supply in the spot property market (Chau *et al.*, 2003).

Apart from the distinctive advantages mentioned above, this presale strategy is not without problems because of the hidden risks arising from asymmetric information

inherent in forward property markets (Chau *et al.*, 2003; Ong, 1997 and 1999; Yang, 2001).

1.2 Asymmetric Information in Forward Property Markets

Asymmetric information occurs when there is a difference in the possession of information among the parties involved in a trade (Weimer and Vining, 2005). In forward property markets, once a forward contract is executed, the buyer becomes the principal of the uncompleted property and has to rely on the developer, *i.e.* the agent, to finish the construction work in accordance with the terms stated in the forward contract. But this principal-agent relationship, in which the developer possesses more information than the buyer in regard to the construction work, has created a "moral hazard"[3] problem for the buyer (Chau *et al*., 2003; Min, 1997). Because of the lack of knowledge and technical expertise, the buyer cannot be sure whether his best interests are served by the developer and whether the quality of the work will be maintained after the developer has collected the proceeds.

According to Min (1997), asymmetric information is a significant deterrence to reaching a competitive market equilibrium because of the moral hazard problem. Holstrom (1979) stated that "actions taken by agents are not directly observable and complete monitoring is thus not generally possible." Therefore, any additional information available to the

[3] "Moral hazard is related to asymmetric information, a situation in which one party in a transaction has more information than another. A special case of moral hazard is called a principal-agent problem, where one party, called an agent, acts on behalf of another party, called the principal. The agent may have an incentive or tendency to act inappropriately from the view of the principal, if the interests of the agent and the principal are not aligned. The agent usually has more information about his actions or intentions than the principal does, because the principal usually cannot perfectly monitor the agent." (Wikipedia, 2007).

principal is valuable because it allows him to make more accurate judgment on the performance of the agent. Leland and Pyle (1977) also stated that moral hazard hampers the direct transfer of information between market players. For example, an entrepreneur is not expected to be entirely straightforward in the provision of the information about his projects, since there may be substantial rewards to be generated from exaggerating the positive qualities of the projects.

Previous studies (Razzi, 1995; Ong, 1997) have also shown that presale property buyers are exposed to a group of hidden risks arising from asymmetric information. For example, some developments have been defaulted after the developers collected the presale proceeds (Buang, 2006). Other problems were also found, such as the quality of uncompleted properties being overstated in the presale promotions and exaggeration of presale floor areas (NCC, 1996 and 2000). Unethical tactics have also been used by some unscrupulous developers in presale promotions in order to boost up the prices and the presales volume[4]. Despite the growing importance of the use of forward contracts to sell uncompleted properties, there are very few studies to investigate the specific risks associated with presale properties (Chau *et al.*, 2003; Ong, 1997 and 1999; Yang, 2001).

A study by Chau *et al.* (2003) set up a Forward Contracts Repeat-Sales (FCRS) Model to study the price movement of presale properties, taking into consideration the expected market risk and the capital finance risk that presale property buyers have to bear during the construction time-lag. However, little is known about the pricing mechanism of

[4] Some complaints arising from presales of uncompleted properties can be found in Appendix I and references of HKSAR, 2005[a-c] and Sim, 2006.

presale properties with reference to the group of hidden presale risks arising from asymmetric information inherent in forward property markets.

1.3 Research Objective

Gardner (2003) pointed out that the importance of information available to players in a market makes a big difference to the outcomes of the deals. If the information is biased towards some players, then the deals will be unfair to those who do not possess the information. According to Whitehead (1983), if asymmetric information is inherent in a market, no allocative mechanism can make the market operate well. Administrative measures will then be necessary for the protection of the market players. Akerlof (1970) also advocated that government intervention is justified to increase the welfare of all parties if asymmetric information is present in the market.

To mitigate the risks arising from asymmetric information inherent in forward property markets, different presale systems have been employed to suit the specific needs of the areas, and measures have also been introduced by governments to deter developers from hiding information (Holmstrom, 1979; Ong, 1999). Examples are the use of regulatory measures to enforce the disclosure of information relating to presale properties and retaining of the proceeds collected from presales while the buildings are still under construction. However, the effectiveness of these measures in deterring the hidden presale risks such as development defaults in the middle of construction, high building defects, exaggeration of floor areas and decoration is questionable[5]. Furthermore, little is known about the pricing mechanism of presale properties affected by the bundle of

[5] For more information, see Appendix I and references of Buang, 2006; Cullum, 2005; SCC, 2006.

hidden presale risks arising from the asymmetric information. To fill the knowledge gap, the objective of this research was set to explore the pricing mechanism of presale properties, given the presence of asymmetric information inherent in forward property markets.

1.4 Scope of the Research

The research has focused on the residential property market in Hong Kong to examine how the presale risks, both expected and hidden, affect the pricing behaviour of presale properties. The forward property market in Hong Kong has been a pioneer in using forward contracts to sell large-scale uncompleted residential property developments since the 1950s. By referencing to the development of the forward property market in Hong Kong, the specific risks associated with a forward property contract have been explored. The regulatory measures taken for deterring the hidden presale risks arising from the asymmetric information have been evaluated. Presale property transaction data from 1993 to 2005 have been collected to examine the price movements in the forward property market and the pricing mechanism of the presale properties compared to that of spot properties in which hidden presale risks are not present. Based on the analyses conducted in regard to the presales of uncompleted properties in Hong Kong, the set of factors which are critical to the development of a forward property market have also been identified.

1.5 Significance of the Research

The research has provided significant insights into the risk-return relationship in forward property markets to facilitate property finance and investment. Based on the pricing models developed, the compensation required by presale property buyers to cover the expected market risk and the extra capital finance during the construction time-lag have been quantified. Furthermore, the models can help identify whether a wealth transfer from presale property buyers to developers has been imposed by the developers on the pricing of presale properties, taking advantage of the hidden presale risks arising from asymmetric information inherent in the forward property market. The findings will inform financial institutions, including bankers, underwriters and investors, about strategic factors for undertaking presale property appraisals. The outcomes of the research also offer governments with direction in setting presale polices. The findings will be particularly useful for those countries in which the finance system for property development projects is still being developed.

1.6 Structure of the Thesis

The thesis contains eight chapters as summarized below:

Chapter 1 introduces the research on the pricing of presale properties with asymmetric information. It includes the background, research objective and scope, and the significance of the research. The structure of the thesis is also outlined.

Chapter 2 reviews the property presale systems used in different countries and explores the hidden presale risks embedded in these forward property markets. The development of the forward property market in Hong Kong is also examined and the regulatory measures taken to deter the hidden presale risks are outlined.

Chapter 3 presents an analytical framework for exploring the pricing of presale properties. It first examines the risk-transfer mechanism embedded in a forward property contract to show the additional risks, including the hidden presale risks arising from asymmetric information, imposed on buyers purchasing a presale property as opposed to a spot property. It then explores how asymmetric information affects the pricing of presale properties through the transfer of wealth from presale property buyers to developers.

Chapter 4 evaluates the effectiveness of the property presale policies adopted in Hong Kong in deterring the hidden presale risks arising from asymmetric information. The roles played by different institutional bodies including the Government, the Real Estate Developers' Association (REDA) and the Consumer Council (CC) in overseeing the presale policies are examined. The roots of the problems which undermine the effectiveness of the presale policies in deterring the hidden presale risks are also explored.

Chapter 5 provides a review of the contemporary models being used in Hong Kong for the construction of property price indices. Based on the review, a model using the Forward Property Repeat Sales (FPRS) method for constructing the presale property price index is proposed, which has been found to be more efficient than the other

available models in reflecting the general price movement of presale properties. By comparing the FPRS Index with the prevalent spot property price indices, any deviation of the FPRS Index from the spot indices suggests that the market players might have over/under-reacted in the forward property market compared to those in the spot market.

Chapter 6 examines the pricing mechanism of presale properties in which the hidden presale risks are embedded. The Forward-Spot Index Tracking (FSIT) Model is introduced. This Model is able to capture not only the compensation required by the expected presale risks which include the additional market risk and capital finance risk borne by presale property buyers, but also the wealth transfer imposed by developers on pricing presale properties, taking advantage of the asymmetric information.

Chapter 7 sets out an interview survey to collect the views from different stakeholders in the community for analyzing the regulatory system of the Hong Kong forward property market. Based on the views collected from the interviews with the pressure groups and professional institutions in regard to the effectiveness of the measures being used, preferred measures for deterring property presale risks are recommended for policy-making. Factors which are critical for the development of a forward property market are also identified.

Chapter 8 concludes the research findings and discusses the implications of the study. It summarizes the results of the earlier chapters to present a complete overview of the

research. It highlights the significance, contributions and limitations of the research. Recommendations are also made for future research.

CHAPTER 2 REVIEW OF FORWARD PROPERTY MARKETS

The objective of this Chapter is to review the forward property markets in different countries. It aims at identifying the gap in knowledge relating to the hidden presale risks arising from asymmetric information inherent in the markets and pricing of presale properties. First, the presale systems adopted in different forward property markets and their respective hidden presale risks are reviewed. Second, the development of the forward property market in Hong Kong is examined and the regulatory measures taken to deter the hidden presale risks are outlined.

2.1 Introduction

In recent years developers in big cities like Hong Kong, Singapore and Malaysia have been involved in building large housing estates to meet the growing demands for residential properties. The increasing popularity of large-scale self-contained condominiums, particularly in North America, Canada and the U.K., with the provision of better facilities and services such as centrally managed gardens, swimming pool, sports complex and self-sustained recreational centre, has created a competitive edge in the forward property markets. Financing for these large-scale real estate projects is a major issue faced by developers in exchange for the significant profits that they can generate. There has been an increasing use of forward contracts to sell the uncompleted properties at the planning or construction stage by developers to release the financial burden (Lindholm *et al.*, 2006). This kind of financing means is also adopted commonly in developing countries. For example, the pre-contract sale law in Morocco allows

developers to get prepayments from buyers before completion of the construction work (AbanaReview, 2004). However, the finance for condominium construction in Moldova and other Eastern European countries is yet to be explored (ECE, 2002).

2.2 Presale Systems in Different Forward Property Markets

Many countries have their own property presale systems.

The U.S., Canada and Australia **-** In the U.S., a presale[6] of an off-plan uncompleted property commonly represents a pre-construction sale programme carried out by a condominium developer who is required to sell a certain percentage of the units before a lender will commit to financing construction of the project. The lending threshold on the number of units pre-sold to the total number of the units of the project can be as high as 40%. On the other hand, the buyer is able to secure an uncompleted property by placing a deposit, usually at 5%, and will either pay the remainder upon completion of the project - known as the 5:95 system - or according to the development schedule - known as the progress payment method[7]. This kind of mixed practice also applies in Canada and Australia, with the only minor difference being that the deposit required in Australia is

[6] A presale is different from a custom sale of an uncompleted property. In a custom sale, the buyer owns the land and hires the builder to build the property. In a presale, the builder owns the land, obtains the construction finance, builds the house and then conveys the completed property to the buyer (Tribune, 2005).

[7] Following is a progress payment schedule of a 30-floor condo (Homesgofast, 2006):

- Deposit (within 7 days of purchase) : 10%
- 1st instalment (within 30 days) : 10%
- 2nd instalment (within 90 days) : 10%
- 3rd instalment (Podium ready) : 10%
- 4th instalment (10th Floor ready) : 10%
- 5th instalment (20th floor ready) : 15%
- 6th instalment (structure ready) : 15%
- 7th instalment (handover) : 20%

10%, and thus it is called the 10:90 concept (Buang, 2006).

In western countries like the U.S. and Canada, after the deposit is submitted, the developer will ask the buyer to get pre-approval for a mortgage loan to secure the finance of the purchase. Many mortgage companies will not give final approval of the loan to the buyer unless presales of 50% to as high as 70% of the units of the project have been secured in order to protect themselves from the risk that the project cannot be completed. But the downside is that a number of presale projects have been abandoned as a result of the developers not being able to secure the required presale threshold and hence the financing. Despite the rules, records have shown that, with the condominium-boom in recent years, many lending companies have been willing to take the risk by relaxing the presale threshold requirement in order to get a competitive edge in lending business in the forward property markets (Tribune, 2005).

Greece and Dubai – A mixed practice of presales similar to that of the U.S. and Australia is followed in Greece and Dubai. Usually a 10% deposit is required and the remainder is paid either on completion or in multiple stages during the progress of the construction. If the progress payment method is used, a discount on the purchase price is usually offered, and the completion of each stage must be certified in writing by the architect before payments are made. The terms contained in the forward contracts include the timetable for the property's completion, stage payment dates, the completion date and penalties for non-completion, guarantees for building work, details of the builder's insurance policy[8],

[8] The builder/developer is required to obtain an insurance policy, or a 'termination' guarantee, to protect the construction work in the event that he goes bust before completing the property (Just Landed Guide, 2006).

and a copy of the plans and drawings. The floor plan and technical specifications signed by both parties are also attached to the forward contract to ensure that the size and standard of construction are adhered to. The contract also allows buyers to withhold at least 5% of the purchase price for six months upon completion as retention money in case the developer fails to correct any defects (Homesgofast, 2006).

Hong Kong, Mainland China, Singapore and Malaysia - In Hong Kong, apart from the use of the mixed practices requiring a down-payment ranging from 10% to 20%, it is very common that buyers choose to settle the full payment in advance when they make the purchases in the presales[9]. This is because developers will offer handsome discount on the purchase price for full payment to attract buyers in order to secure as much upfront capital as possible for financing the projects. Furthermore, no retention money is kept. Similar practices are also adopted in Singapore. In Mainland China it is the case that the presale system is used as a means to secure the upfront capital for financing the entire construction project, and thus it requires the buyers to pay 100% upfront far in advance of completion (Yang, 2001). In Malaysia, it has been the objective of the government to promote property as a popular investment instrument. Therefore, Malaysia has adopted the "Sell-then-Build" Scheme in which the progress payment method is used to foster presales of uncompleted properties.

2.3 Hidden Presale Risks in Different Forward Property Markets

The presale systems described above are not without problems. For example,

[9] In Hong Kong, developers will offer handsome discounts to attract presale property buyers to settle full payment in advance. In some housing estates, more than 50% of the presale property buyers chose this method because of the discount offered (Apple Daily, 2007[a]; Oriental Weekly, 2005).

development defaults are commonly found in both Mainland China and Malaysia. Since the presale system adopted in Mainland China is used as a means to secure the upfront capital for financing the entire construction project, and it requires the buyers to pay 100% upfront far in advance of the completion (Yang, 2001), there is a very high risk to the buyers. If presales of the project are not as good as expected and cannot meet the total financing cost, the project will very likely be defaulted and the buyers stand to lose all their money put into the presales. According to the record of Liaison Office of China, up to June 2004, there were 240 defaulted property sites left unresolved just in Guangtung Province. Some of the housing estates were even repeatedly sold or mortgaged due to the absence of proper regulations. The problem was so severe that, in the Real Estate Financial Report 2004, the People's Bank of China questioned whether the current presale policy should be continued or be replaced by a system in which developers may only sell completed projects (Kalifa, 2005).

The case in Malaysia is not much better under the "Sell-then-Build" Scheme. 526 housing projects in West Malaysia were abandoned between 1966 and 2001. Just in 2004, the government was working hard to revive 97 abandoned housing schemes affecting more than 30,000 buyers (The Star, 2004). Apart from the financial reasons, up to 70% of the failed projects were abandoned for a host of 'non-financial' reasons, such as problems with squatters, disputes between developers and architects, management problems, etc (Esha, 2003). Besides defaults, the problems of "housing scam", late completion and building defects were so severe that there were strong calls for the reversal of the "Build-then-Sell" method. In June 2006, the government came to a

decision to introduce the 10:90 system, in parallel with the progress payment method, which allows buyers to pay 10% first and the rest upon completion of the property with issue of the Permanent Certificate of Fitness. It is believed that, with the use of the 10:90 system, the buyers will be insulated from the fallout should the developer abandon the project. However, there have been heated debates on whether the new system will shrink the construction work and therefore the overall economy of the country (Property Times, 2006).

Apart from defaults in the middle of construction, inferior building quality and incorrect information are also problems of presale properties. In China the poorly-built quality of presale properties derives not only from the use of substandard building materials but also from mismatches between the decoration and what has been promised in the presale promotions (Yang, 2001). Similar problems have also been found in other countries like Singapore, Taiwan, Canada and the U.K. (Cullum, 2005; Gwin and Ong, 2000; Li, 1998; Ong, 1997). In Taiwan, developers can pre-sell uncompleted properties once they obtain the building permit. Presale property buyers will usually have to pay 5% of the house price for a deposit and sign the forward contract afterwards. Once the construction starts, the buyers have to pay 2-3% of the house price at each construction stage so that a down-payment of at least 40% of the house price is settled before completion of the properties (Chang & Ward, 1993). On the other hand, more than half of the housing complaints in Taiwan come from presale transactions and they account for 65% of the total housing complaints filed (Hua *et al.*, 2001; Li, 1998). The three main types of complaints include poor quality building work (30.6%), shrinkage of housing space (11.9%) and incorrect

housing information (21.2%).

In the U.K., a building missive was published by a Glasgow solicitor in 1986 to expose the problems contained in presales of uncompleted properties (SCC, 2006) quoted:

> *"I hereby offer to purchase from you whatever type of house in whatever location and using whatever standard and specification of materials you see fit and I undertake to pay over the full purchase price within twenty-four hours of you intimating to me that the house is ready whether it is, in fact, ready or not and whether or not it has been passed as completed by the Local Authority. …".*

Notwithstanding how ironic the above missive sounded, according to the findings of the Baker Review in 2004 and the report prepared by the National Consumer Council (NCC) (Cullum, 2005), not much had changed and, at the time of these reports, there was a lack of adequate consumer protection in buying presale properties in the U.K. The forward property contracts used were often unclear and included wide-ranging exclusions of liability. The problems included late completion of project, pressure on buyers to accept incomplete properties; late after-build service and inadequate means of redress. More important, the issue of snagging, resulting from the mismatch between the actual and expected specifications on the fittings and finishes, was seen to be a major problem.

Attempts were made by The Law Society to propose a standard Builders' Missive with the aim of "bringing the standards of all up to the level of the few and promoting a fairer, more even-handed standard missive in the industry". However, according to the report

prepared by the Scottish Consumer Council (SCC) in 2006, little progress was noted. Therefore, Braxtan (2006) suggested potential buyers to include the inspection contingency clause in the forward contracts when buying an uncompleted property. However, this measure is not mandatory.

The use of unethical tactics in conducting presales in some areas also causes concerns. Although the risk of development default was found to be minimal in areas like Hong Kong and Singapore, surveys conducted in Hong Kong revealed that some unscrupulous developers kept using grey areas for not adhering to the requirements stipulated in the presale guidelines. For example, presales were conducted through the so-called "reserved unit registration" in which no price list was provided to allow buyers to compare prices of different flats (Lai, 2006). Some developers had selectively released the transaction information in order to ramp up the prices by creating an impression that the properties were in dire demand (HKSAR, 2005[a]). Similar problems were also found in Singapore (Sim, 2006).

Hong Kong has been a pioneer using forward contracts to sell uncompleted properties since the 1950s and has introduced a number of administrative measures to regulate property presales and to deter the hidden presale risks arising from asymmetric information. In the next section, references to the development of the forward property market in Hong Kong will identify the gap in the knowledge relating to the hidden presale risks and pricing of presale properties.

2.4 Development of the Hong Kong Forward Property Market

The desire for residential property in Hong Kong as an investment asset has always been high and property prices shot up seven fold from 1984 to the Asian Financial Crisis in 1997 (see Figure 2.1). A number of factors contributed to the strong demand for properties during this period, which incubated the rapid development of the forward property market in the territory. These included the continued population growth from around 4 million in 1980 to over 6.6 million in 1997 caused by the influx of Chinese immigrants, the foreign capital influx and the home-ownership policy promoted by the Government. More important, the negative interest rates resulting from the linked exchange system coupled with the booming economy in Hong Kong during the late 1980s and the early 1990s exacerbated the already surging demand for property (Apple Daily, 2005[b]). Just between 1995 and the first quarter of 1997, housing prices rose by 50% (see Figure 2.1). The rise continued until 1997 when the Asian financial crisis broke out. Since then, the prices underwent a significant downward adjustment and fell to the 1991 level in 2003. But starting from 2004, the market gradually picked up again with the improvement in the economic environment.

Figure 2.1 Hong Kong private residential property price index (1984-2006)

Data Source: Hong Kong Property Reviews issued by the Department of Rating and Valuation (RVD)

To cope with the surging demand for property with limited land supply in the city, developers in Hong Kong have concentrated on constructing high-rise buildings and large-scale housing estates. Many major property developers in Hong Kong, such as Cheung Kong, Sun Hung Kai, Henderson, and New World, who were not engaged heavily in land development before the 1970s, are now among the world's wealthiest property tycoons[10]. Their success can be attributed mainly to the unique business strategies they adopted in property development and their access to low-cost finance for large-scale development projects (Tang and Liu, 2001). The development strategies adopted by major developers in Hong Kong are characterized by a "production-based" approach, focusing on the maximization of floor area on every site. Developers seek to

[10] According to the survey conducted by Forbes.com on the world's billionaires in 2007, Dr. Li Ka Shing, Chairman of Cheung Kong Holding Limited, was ranked 9th among the top world's billionaires; Dr. Lee Shau Kee, Chairman of the Henderson Land Development, was ranked 22nd; and the Family Kwok who owns Sun Hung Kai Properties was ranked 33rd (Forbes, 2007).

compete on timing and quantity of property developments rather than on quality of production, in particular, on those properties which have already been pre-sold.

With regard to financing, these developers are able to secure a substantial amount of working capital for the projects through the use of forward contracts to pre-sell their uncompleted properties. The low capital costs give major developers a competitive advantage, and the low gearing also enables them to mitigate the loss during adverse market conditions. As shown in Table 2.1, presales of uncompleted properties in Hong Kong accounted for a large proportion of the total number of property sales transacted in the first-hand market from 1993 to 2006, ranging from 25% to as high as 78%.

Table 2.1 Number of presales to total number of sales in first-hand property market

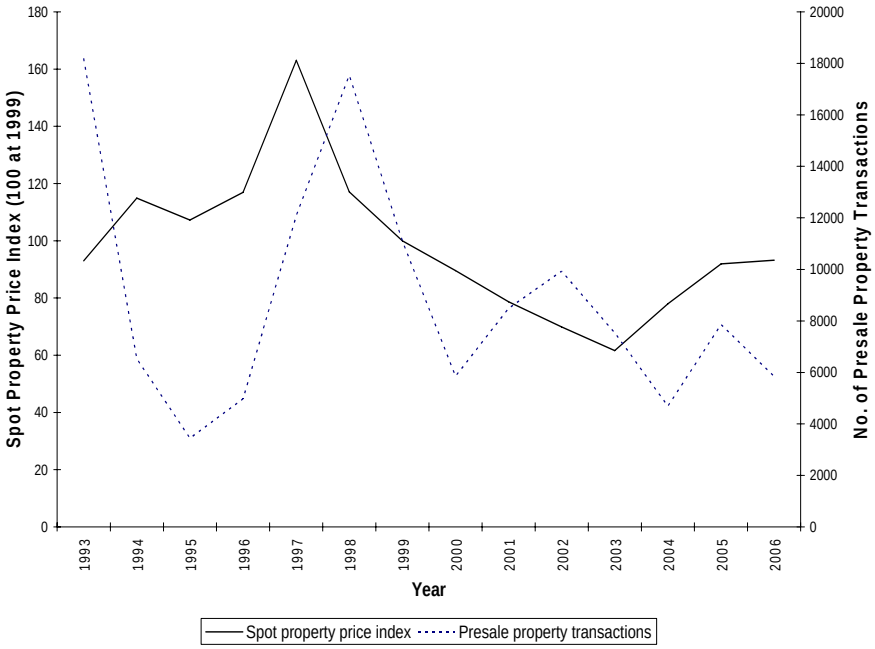
Year	***Total no. of sales in first-hand market***	***Presales on uncompleted properties***	***% of presales to total sales in first-hand market***
1993	23375*	18191	78%
1994	10778*	6525	60%
1995	4704*	3440	73%
1996	9109	4975	55%
1997	15500	12082	78%
1998	23384	17534	75%
1999	22121	11093	50%
2000	18151	5849	32%
2001	18539	8493	46%
2002	16541	9926	60%
2003	19047	7529	40%
2004	18566	4691	25%
2005	12409	7859	63%
2006	10832	5841	54%

Source: Data have been extracted from the Economic and Property Research Centre (EPRC)

* Since the number of sales in the first-hand property market from 1993 to 1995 are not available in the EPRC, properties completed in this period which were sold within the first year of completion are estimated as completed properties sold in the first-hand market

Figure 2.2 shows the number of presale property transactions compared to the spot property price index[11] in the territory from 1993 to 2006 published by the Rating and Valuation Department (RVD). As shown in the Figure, the number of uncompleted properties transacted in the forward market during the study period was following the trend of the spot property price index in general. This implies that when property prices increased, particularly in 1996-97, more presales were offered by developers so as to capture the higher capital gain. Vice versa, developers cut down their presales when the market was sluggish and handsome profits could not be realized, e.g. in the years following 1998 after the Asian Economic Turmoil broke out.

Figure 2.2 Presale property transactions and spot property price index 1993-2006



Data Source: Property price index published by the Rating and Valuation Department (RVD, 1995-2006)

[11] The RVD property price index is the primary source of price indices that practitioners make reference to in Hong Kong. The index adopts a transaction-based method using the property prices of virtually all transacted spot properties (but it does not include presale properties transacted) in the territory (RVD, 1995-2006).

2.4.1 Regulatory system of the forward property market

Formal presales of uncompleted residential properties in the private market in Hong Kong were first recorded in 1954, covering a housing estate of over one hundred blocks of three-floor buildings located in Public Square Street in Kowloon Peninsula. The housing project was developed by Lap Shun Development, which was owned by a Chinese tycoon, Sir Fok Ying Tung (Next Magazine, 2006). It targeted young working householders who had limited savings in hand but needed reasonable housing for their families. To help these householders to own their properties, Fok introduced the payment in form of instalment. Buyers were required to pay a down-payment of 50% of the property price, and the balance was paid upon the completion of the properties in instalments. These presales of uncompleted properties scheme became very popular in the 1950s. It also signaled the start of co-ownership of multi-storey properties and, for the first time, allowed buyers to pay by instalment on a purchase of a property.

However, in 1958, three developers who encountered cashflow problems collapsed and therefore the interest of potential buyers in purchasing presale properties was deterred. In 1960 another developer, Fu Wah Development, failed to complete the housing estate of Peony House because of over-spending on the construction costs. In the end, buyers of the uncompleted properties had to pay an excess of 30% over the original purchase price in order to complete the construction after the developer fled. The Government, in 1961, made a review of the conveyancing practice in the forward property market and the Consent Scheme was introduced to guide the presales for protecting the buyers.

2.4.2 The Consent Scheme

The Government introduced the Consent Scheme in 1961 with the aim of deterring the hidden risks arising from asymmetric information inherent in the forward property market and to minimize the risk exposure of presale property buyers. The Consent Scheme[12] is implemented through the use of restrictions placed on developers under the Government lease, which developers must meet in order to obtain the consent of the Lands Department (LandsD) for presales of the uncompleted properties (CM, 1999-2002; LC Papers, 2000-2006). The major requirements under the Conditions that developers must meet, which are distinguished from those contained in the sales contracts of spot properties, are listed as follows:

i. To ensure that the development is financed adequately and will be completed, documentation is required to show the developer's financial ability to complete the development. This includes:
   - certified balance sheet and/or previous audited annual accounts;
   - letter from associated companies/banks confirming the continuation of funding or financial assistance to enable construction to be completed;
   - where there is a building mortgage, a letter from the mortgagee confirming the balance of the facility available to the owner to finance this development.

[12] The Consent Scheme can be applied only to developments under Government lease in which the Government has been given the control over the development. For those redeveloped lands for which no such consent is required in the lease, the Law Society has issued a statutory declaration form and a standard form of Agreement for Sale and Purchase (ASP) with the mandatory clauses similar to those that are used for the Consent Scheme for use of redevelopment projects, know as Non-Consent Scheme.

ii. To protect the deposit and payments that buyers have made, the solicitor of the developer will hold the money as a safehold in an escrow account. The stakeholders are not entitled to release to the developer any sum in excess of the amount certified by the architect appointed or the Authorized Person (AP) as having been expended on the building.

iii. A certified statement is required from the AP, stating the costs incurred so far as well as the amount outstanding and a brief description of the development, giving as much information as is reasonably practicable so that a purchaser will have a general understanding as to the nature and composition of the development.

iv. The finalized presale brochures and price lists in relation to the residential units need to be made available to prospective buyers and must also be sent to the Lands Department before the commencement of the property presales.

v. The building must be completed by a specified date which is defined as either the AP's estimated date of completion in accordance with the building plans, or as the issue of the Occupation Permit (OP) by the Building Authority. If the developer fails to complete the building on or before the date specified in the building plan, the buyer has the right to rescind the agreement if no extension has been applied. If the developer has applied for extension but fails to finish the building after the extended period, the purchaser has the option to rescind the agreement or to wait for the

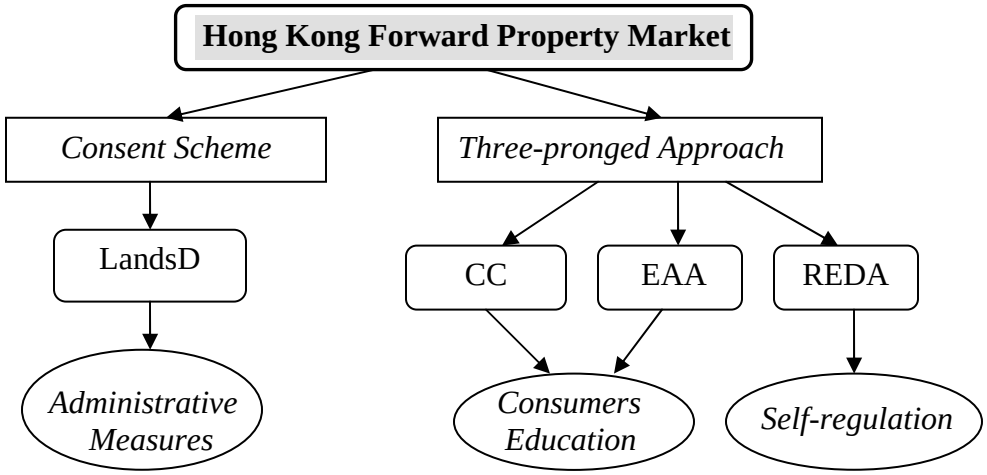
completion of the building and will receive from the developer the interest loss on the payment he already made.

vi. A warranty clause must be made by the developer to ensure that "the building work is done in a good and workmanlike manner, that the materials used are good and proper, and that when completed the property will be reasonably fit for human habitation or for the purpose for which it has been built." The purchaser also has a half-a-year period to report the building defects found to the developer for rectification.

2.4.3 The Three-Pronged Approach

Apart from the use of administrative measures under the Consent Scheme, self-regulatory measures are also undertaken by the Real Estate Developers' Association of Hong Kong (REDA) to guide its members on the conduct of property presales. The self-regulatory measures aim to enhance the transparency of the market and the accuracy of the information released to the public. Details of the presale guidelines are contained in Appendix II. Furthermore, the Consumer Council (CC) and the Estate Agent Authority (EAA) also play a part to undertake activities to enhance consumer education and protection. For example, a pamphlet has been published by the CC and the EAA to be inserted in presale brochures to remind prospective buyers of the issues that they need to pay attention to. Details of the pamphlet are listed in Appendix III. In addition, awareness-raising and educational measures are undertaken by the CC to teach buyers how to take appropriate action on their own behalf to safeguard their rights (LC Papers, 2000-2006).

Figure 2.3 Regulatory system of the Hong Kong forward property



market

The Government believes that this Three-Pronged Approach, i.e. the REDA, CC and EAA, together with the administrative measures implemented in the Consent Scheme (see Figure 2.3), can, on one hand, protect consumers' interests and, on the other hand, will not fetter the market operation.

2.4.4 Can the hidden presale risks be totally deterred?

Since the introduction of the Consent Scheme, presale property buyers have received certain protection against unscrupulous developers who might walk off with the proceeds collected and leave the building unfinished. It also brought the approach of establishing in Hong Kong a standard acceptable form of contract for presale of uncompleted properties. However, later incidents have shown that the hidden presale risks, such as exaggeration of floor areas, mismatch of housing features and the use of unethical presale

tactics, can hardly be deterred despite the use of the regulatory system. Some of the recent complaints arising from the hidden presale risks are contained in Appendix I.

2.5 Comparison of the Presale Systems and the Hidden Presale Risks

Table 2.2 shows the presale payment methods and the presale risks commonly found in different countries. Some interesting insights can be drawn in regard to the operation of the different presale systems.

Table 2.2 Payment methods and hidden presale risks in forward property markets

Forward property markets	Hong Kong Singapore	Taiwan	China	Malaysia	Canada, US, UK, Australia	Morocco Dubai	Greece
Payment methods							
100% in advance	√	√	√	n/a	n/a	n/a	n/a
Progress payment	√	√	√	√	√	√	√
10(5)/90(95)	√	√	n/a	√	√	√	√
Retention money	X	n/a	X	√	X	n/a	√
Property presale risks							
Development default	X	√	√	√	√	n/a	n/a
Delayed delivery	√	√	√	√	√	n/a	√
High building defects	√	√	√	√	√	n/a	n/a
Features mismatch	√	√	√	√	√	n/a	n/a
Exaggeration of floor areas	√	√	√	√	√	n/a	n/a
Use of unethical presale tactics	√	√	√	√	n/a	n/a	n/a

Note: √ = yes, X = no, n/a = information not available

As shown in Table 2.2, most countries, such as the U.S., the U.K. and Malaysia, have adopted the 10(5)/90(95) payment system in parallel with the progress payment method for pre-selling uncompleted properties. Despite the use of the 10(5)/90(95) payment method, defaults were still found in areas like Malaysia, China and Taiwan. Furthermore, in Canada, the U.S. and the U.K., a number of potential projects were forced to cease

even before their start because the developers were not able to secure the presale threshold, and the deposits had to be returned to the presale buyers. In places like Singapore and Hong Kong, where full settlement of the payment at the time of purchase is common, the rate of developments defaulted by developers has been close to zero for the past two decades. This poses the question whether the use of a more prudent payment method like the 10(5)/90(95) system can really enhance the effectiveness of the forward property markets, or whether there are other factors which are more critical to the development of these markets.

In regard to the other presale problems such as delayed delivery, high building defects, features mismatch and exaggeration of floor areas, these are also found in most of the forward markets to some extent. Although the Hong Kong Government has introduced a number of measures to deter these hidden presale risks, the outcries from the public for reforms of the presale system in recent years have not been stopped (LC, 2002 – 2006).

2.6 Summary

This chapter has reviewed the property presale systems adopted in different countries and has explored the hidden presale risks present in these areas. It has also covered the development of the forward property market in Hong Kong and illustrates the additional hidden presale risks arising from asymmetric information that are exposed to buyers in the purchase of a presale property compared to that of a spot property. These include development default, delayed delivery, high building defects, features mismatch, exaggeration of floor areas and the use of unethical presale tactics.

This chapter has also outlined the regulatory system used by the Hong Kong Government, which includes the Consent Scheme and the Three-Pronged Approach, to deter the hidden presale risks. Despite the regulatory measures, incidents in recent years show that problems generated from the hidden presale risks are still common.

Upon reviewing the presale systems used in different countries and referring to the development of the forward property market in Hong Kong, a number of questions relating to the hidden presale risks and pricing of presale properties can be raised. First, what are the roots of the problems undermining the effectiveness of regulatory measures in Hong Kong in deterring the hidden presale risks? Second, have these hidden presale risks imposed any impact on the pricing of presale properties? Third, can the use of a more prudent payment method really enhance the effectiveness of the forward property markets, or are there other factors which are more critical to the development of these markets?

CHAPTER 3 THE ANALYTICAL FRAMEWORK

This Chapter presents an analytical framework for exploring the pricing of presale properties. First, it examines the risk-transfer mechanism embedded in a forward property contract to show the additional risks, including the hidden presale risks arising from asymmetric information, imposed on buyers purchasing a presale property as opposed to a spot property. Second, it explores how asymmetric information affects the pricing of presale properties through the transfer of wealth from presale property buyers to developers.

3.1 Introduction

A property development project involves different aspects of activities and each activity has its own risks which result in a set of accumulative associated risks for the project (Flanagan and Norman, 1993; Flanagan, 2002). These risks include the occurrence of both unexpected and expected events. Unexpected events include unforeseen site conditions, technical difficulties and poor management of the construction; and expected events include uncertainty of the economic environment affecting the sales of the final output and the interest rate fluctuation affecting the cost of capital financed. Some risks are controllable and some are not. Developers, being owners of the projects, will look for various means to mitigate these risks. This is particularly the case with presales of uncompleted properties in which a risk-transfer mechanism is embedded that can help developers transfer part of the development risk to presale property buyers (Chang and Ward, 1993).

3.2 Risk-Transfer Mechanism in Forward Property Markets

According to Hendershott (1996), the fundamental equilibrium concept states that expected risk-adjusted returns are equal across different investments with the same risk level. To determine the anticipated level of return or benefits to be generated in order to compensate the level of risk to be borne, a good knowledge of the investment's risks borne by both developers and buyers on a presale property must be acquired.

3.2.1 Risks borne by property developers

A developer who initiates a property project and becomes the owner of the project is naturally liable for taking up all the risks of the project. He will have to face the risks arising from the complexity of the project, location, type of contract, familiarity with the work, technical and technological issues, and breakdown in communication (Ahmed *et al.*, 1999; Flanagan, 2002). Some risk sources are controllable and some are not. A list of the most common construction and development risks that have to be faced by a developer can be identified and classified in accordance with their generic nature as shown in Figure 3.1.

Figure 3.1 Classification of real estate development risks

Risks Classification
Operational risk: - Poor management - Poor cost control - Delays in resolving contractual issues - Labour, equipment and materials availability - Suppliers/subcontractors poor performance - Act of God - Change in building legislations and ordinances
Technical and technological risk: - Contractor competence - Defective design - Defective materials - Deficiencies in specifications and drawings - Labour and equipment productivity - Quality of work - Safety - Unforeseen environmental/site conditions
Market risk: - Inflation - Economic factors - Political uncertainty
Capital finance risk: - Interest rate fluctuation

Operational risk - In a property development, poor management of the project may lead to delay of completion and/or inferior quality of construction. Unpredictable events, such as bad weather, power failure and strikes, that are referred to as "force majeure risks", may also postpone the completion time. The delay will certainly upset the schedule of the property sales and financial loss may be incurred to the developer.

Technical and technology risk - According to a survey conducted by Flanagan (2002), 40% of defects in buildings are design-related, another 40% workmanship-related, and the remainder are the result of component failures. The premiums for professional

indemnity insurance have risen over the past decade partly because of the higher incidence of claims for negligence and partly because of the growing complexity of construction projects.

Market risk –The performance of a property development depends not only on a smooth operation during the construction, but also on the economic and political environment of the market. It will be influenced by macro-economic factors like the growth of gross national product, the income level of householders, the inflationary impact as well as the political stability of the community. If the sales are launched in a sluggish market, the income from selling the properties will certainly be affected adversely.

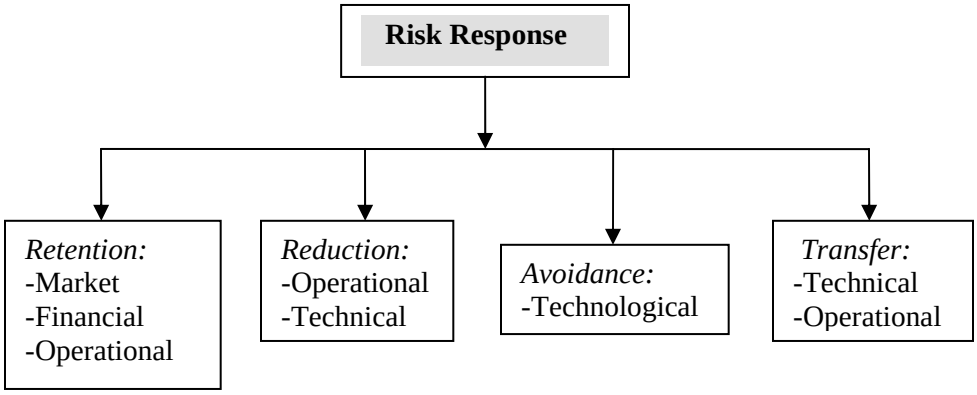
Capital finance risk - This refers to the uncertainty induced by the method of financing the capital for an investment. Financing for large-scale housing projects, some of which are billions of dollars, is not an easy task for developers. Most of the projects are financed through borrowing from banks or syndicated loans. Therefore, these investments are sensitive, to some extent, to the interest rate fluctuation. Property developers, who are often highly-geared because of the heavy borrowing, have to bear a high capital finance risk subject to the fluctuation of the interest rate.

3.2.2 Risk response alternatives for developers

In order to mitigate the possible loss from the risks exposed, developers need to look for the most appropriate practice to manage the risks. There are four possible techniques responding to the risks, they include risk avoidance, risk transfer, risk retention and risk

reduction (Raftery, 1994; Al-Sobiei, 2001). The use of these methods varies from developer to developer, depending on the industry sector, size of the developer, the attitude towards risks, the perceptions of risks, and the level and intensity of the individual risk. As shown in Figure 3.2, developers need to consider how the different types of risks, be they related to operation, market or technical issues, can be managed by either transferring the risk to another party, retaining it, reducing it, or avoiding it. Of course, each decision alternative has its own cost.

Figure 3.2 Risk response alternatives for property developers



***Risk retention* –** Like other businesses, developers must bear the risks relating to operational and financial difficulties associated with poor management of the project, inaccurate estimation of the costs and unfavorable market sentiment. These difficulties may impose adverse impacts on the outcome of a project, and developers have to bear the adverse consequences of the occurrence. A number of methods has been employed by developers to control and finance the risks retained, ranging from the use of self-insurance to the setting up of captives (Carter and Doherty, 1974). Some may choose to

ignore those risks that occur frequently but the magnitude of the possible financial loss is small.

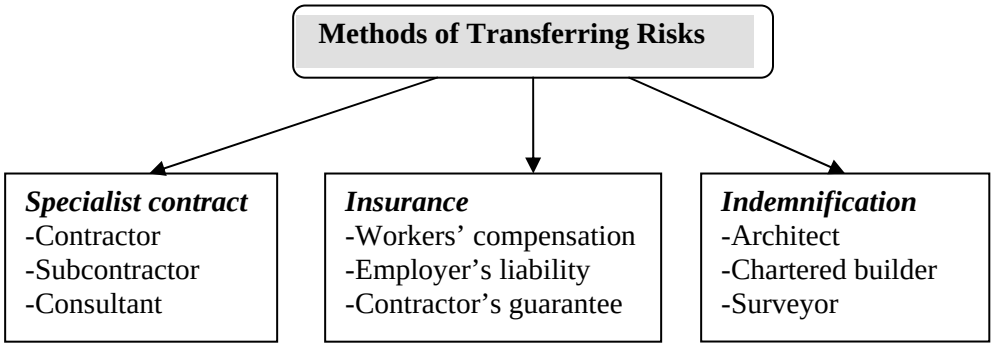
Risk reduction **-** For some risks which are related to site safety and poor operational management, the frequency of their occurrence and the impact of the results can be reduced through precautionary measures. These include improvements to the physical, procedural, and educational and training devices (Flanagan, 2002; Flanagan and Norman, 1993). Clear and easy-to-follow procedures can lead to a better coordination between working parties and increased productivity. Education and training on the technical work and safety issues are important in reducing the harmful effects of the risks within the working environment.

Risk avoidance **-** Sometimes developers may take a pessimistic approach to coping with the risk by choosing not to get involved in certain risk activities. For example, a developer may insist in avoiding the use of a newly developed technology. Some developers may avoid taking up certain parts of the project in which the risk is considered too high to be borne through, for example, pre-contract negotiation, or even not bidding on the high-risk portion of the contract (Carter and Doherty, 1974).

Risk transfer **-** Transfer of risk does not reduce the criticality of the risk sources, it just transfers the liability, wholly or partly, to another party (Thompson and Perry, 1992). Therefore, it is also known as a risk-sharing method. In a property development project, there are two basic forms of risk-transfer used by property developers, namely specialist

and financial transferal. The former is to transfer the technical risks involved to specialist contractors through the delegation of work (see Figure 3.3). The latter is, while retaining certain activities, to transfer the financial risk arising from the activities to the other party through, for example, the use of insurance and contractor's guarantee in form of Surety Bond or Letter of Credit. There is also use of indemnification provisions.

Figure 3.3 Risk transfer alternatives for property developers



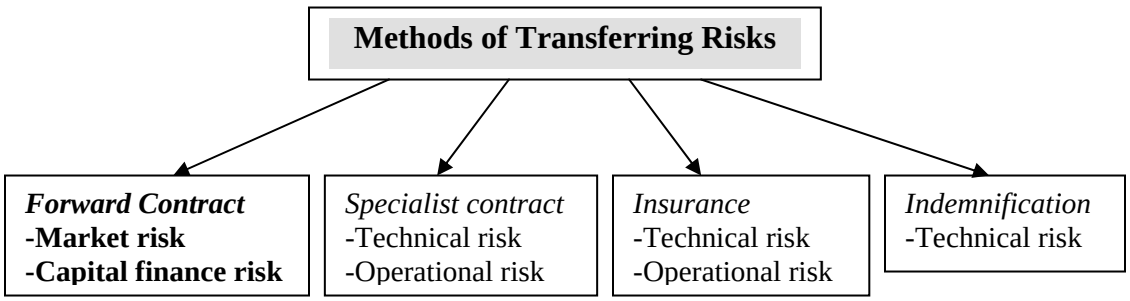
According to a study by Baker *et al.* (1999), risk reduction is the most commonly used method by developers on small and frequently occurring items. Over 90% of the respondents in the study indicated the constant use of risk reduction techniques. Risk transfer comes next, mentioned by over 60%, and this is also the most commonly used method to cover those risks of which the impacts are intense and that may incur significant financial liability. Risk retention is used the least.

3.2.3 Risk-transfer through forward property contracts

Financing for large-scale property development projects, some involving billions of dollars, is certainly not an easy task for developers. Many developers therefore seek the possibility of pre-selling the uncompleted properties upfront to finance the construction

by use of forward contracts. The presales can help transfer the capital finance risk of the project to presale property buyers, and shift the market risk of the properties to the buyers during the construction time-lag through the transfer of the equitable ownership of the uncompleted properties (Chang and Ward, 1993). The forward contract therefore offers another risk transfer alternative for property developers, as highlighted in Figure 3.4.

Figure 3.4 Revised risk transfer alternatives for property developers

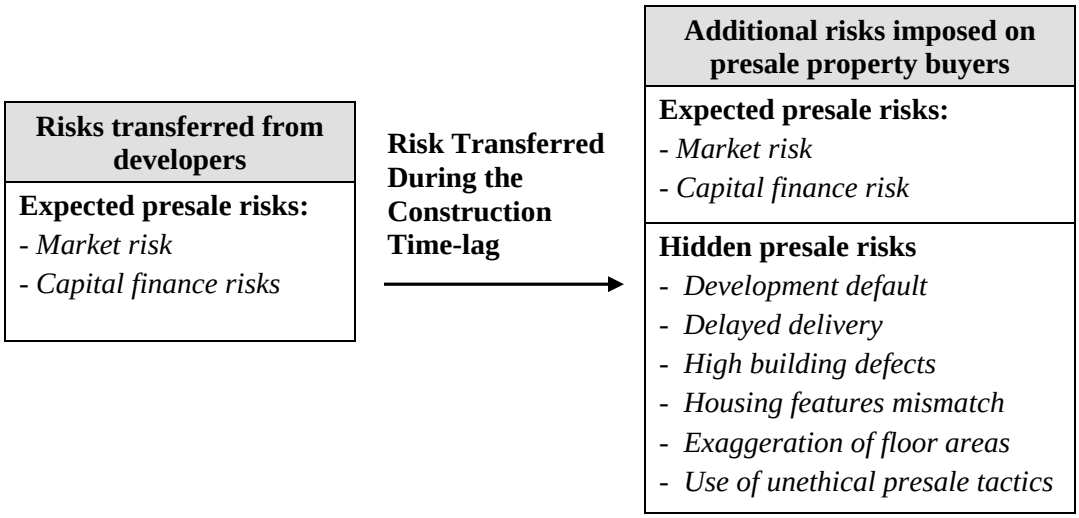


3.2.4 Risk-transfer mechanism from developers to presale property buyers

Figure 3.5 shows the risks transferred from developers to presale property buyers through the risk-transfer mechanism. Developers can successfully transfer the expected market risk and capital finance risk to the buyers, but the transfer is not a one-to-one relationship. Apart from picking up the expected risks, presale property buyers have to bear the hidden risks arising from asymmetric information inherent in the forward property market. Due to the asymmetric information, a presale property buyer cannot ensure whether his best interests are served by the developer after the forward contract has been signed. The developer may take advantage from the development, for example switching to inferior materials or exaggerating the floor area that can be put into use, without the knowledge of the buyer. Previous studies (Chau *et al.*, 2003; Razzi, 1995; Ong, 1997; Yang, 2001) show that a presale property buyer is exposed to a bundle of hidden risks which are

discussed in Chapter 2[13]. They include risks of development default, delayed delivery, high building defect risk, housing features mismatch, exaggeration of floor areas and the use of unethical presale tactics.

Figure 3.5 Risk-transfer mechanism through a forward property contract



3.3 Pricing of Presale Properties with Asymmetric Information

Several studies in the existing literature have investigated the relationship between the market risk and property return. The study by Newell and MacFarlane (1993) found that property investors consistently underestimate the risks associated with property investments. As a result, the investors may not be able to seek an adequate return from their investments to compensate for the relatively high level of risks. Hutchison and Nanthakumaran (2000) discovered that property markets display some level of inefficiency. Therefore, by exploiting such inefficiencies, investors may use risk analysis of the market to add value to their investment portfolios. Unfortunately, previous studies

[13] See Appendix I for more details.

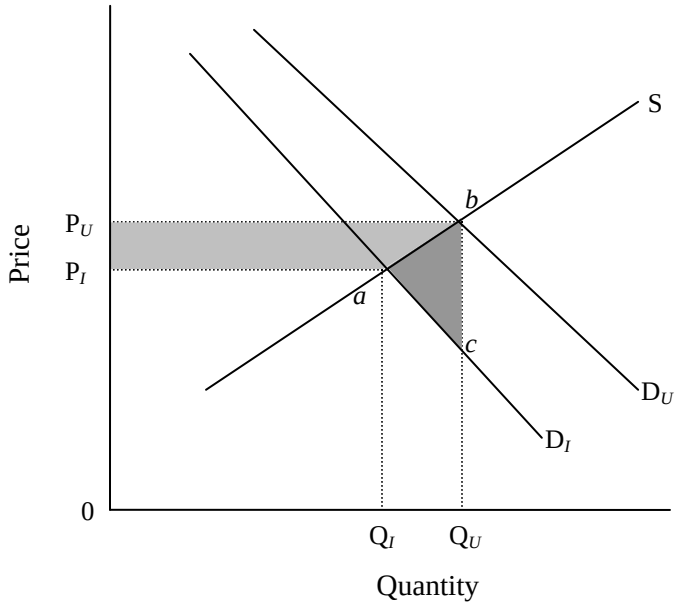
seem to have paid little attention to the hidden presale risks arising from asymmetric information inherent in a forward property market or to how the market players deal with the risks in pricing presale properties.

Ong (1997) conducted a study on building defects, warranties and project financing on presale properties. He found that builders made little effort in the construction after the proceeds had been collected. This resulted in more building defects on presale properties compared to those sold in the spot market. Farrell (2002) investigated the principal-agency risk in project finance. The study proposed that developers, *i.e.* the agents, are able to transfer wealth from the unwary principals of the project to themselves through the use of actions which are unobservable by the principals. Weimer and Vining (2005) stated that when there are situations where the amount of information about the characteristics of a good varies between the buyer and the seller, then inefficiency in the trade of that good occurs due to asymmetric information, and transfer of wealth may happen.

The transfer of wealth from buyers to developers on a property presale can be explained by economic theory of transfer of consumer surplus with asymmetric information. Figure 3.6 illustrates the potential loss of consumer surplus associated with asymmetric information (Weimer and Vining, 2005). D_U represents the quantities of the good that a consumer would buy at various prices in the absence of full information about its quality, *i.e.* with asymmetric information, and it is known as the consumer's uninformed demand schedule. D_I represents the amounts of the good that would be purchased at various

prices if the consumer possessed full information about its quality, and this is known as the consumer's informed demand schedule.

Figure 3.6 Transfer of wealth with asymmetric information



Uninformed consumption: Q_U
Informed consumption: Q_I
Deadweight loss if uninformed: *abc*
Extra producer rent if uninformed: $P_U ba P_I$

Source: Policy Analysis – Concepts and Practices (Weimer and Vining, 2005)

The quantity purchased by the uninformed consumer is determined by the intersection of D_U with the supply schedule, S. This amount, Q_U, is greater than Q_I, the amount at which the consumer would have purchased if fully informed about the quality of the good. The darkly shaded area *abc* equals the deadweight loss in consumer surplus resulting from the over-consumption. That is, for each unit purchased beyond Q_I, the consumer pays more than its marginal value as measured by the height of the informed demand schedule. This

excess consumption also results in a higher equilibrium price, P_U, which transfers surplus (wealth) equal to the area $P_U baP_I$ from consumers to producers of the good.

Weimer and Vining (2005) also stated that it is an incentive for producers to hide information about the true quality of the good from buyers. When producers hide the information about the negative aspects of the good, consumers may over-estimate the quality, and this will maximize the difference between P_U and P_I, so the wealth will be transferred from the buyers to the producers.

3.4 The Research Framework

Goods are generally divided into two categories, i.e. search goods and experience goods (Weimer and Vining, 2005). With a search good consumers can determine the characteristics with certainty prior to purchase. With an experience good buyers can determine the characteristics only after purchase. A spot property can be classified as a search good because consumers can judge its quality through inspection prior to purchase with known information, whereas a presale property can be classified as an experience good because purchase has to be made without possession of full information since inspection of the property is not possible.

According to Weimer and Vining (2005), experience goods offer the potential for serious inefficiency caused by asymmetric information. Once consumption reveals the quality, the buyer may discover that the good provides less marginal value than its price, and therefore may regret having made the purchase. The problem of inefficiency will be

exacerbated if the quality of the good is heterogeneous. This is because the process of learning which producer to choose from previous consumptions of a highly-heterogeneous good is slow, or even unreliable if the quality of the good offered is unstable across producers.

When reliability is an important element of quality, producers may offer warranties that promise to compensate buyers for a portion of replacement costs or collateral damage to provide buyers with insurance against low quality. However, the quality of a warranty may itself be uncertain if buyers do not know how readily producers honor their promises. Nevertheless, the warranty serves as a common device for reducing the consequences of asymmetric information for experience goods. An example of this is the warranty offered by developers on presale properties to rectify the building defects.

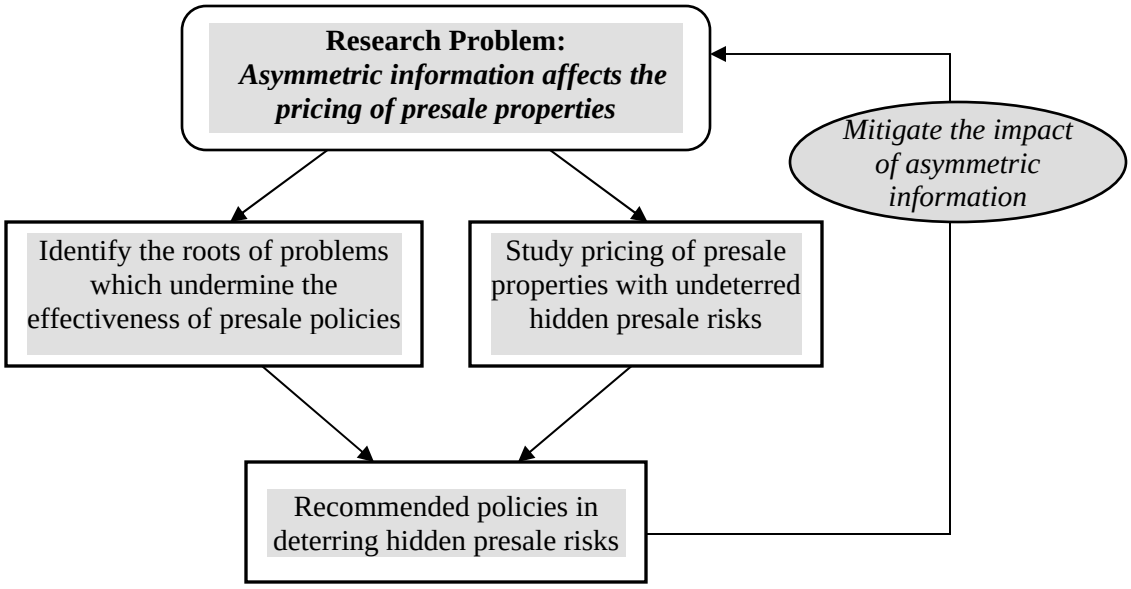
Apart from the measures taken by developers to ensure the quality of presale properties traded in forward property markets, different measures have been introduced by many governments to deter developers from hiding information (Holmstrom, 1979; Ong, 1999). An example is the use of regulatory measures to enforce disclosure of information relating to presale properties and retaining of the proceeds collected from presales while the buildings are still under construction. However, the effectiveness of these measures in deterring the hidden presale risks is questionable, as discussed in Chapter 2.

Following the examination of the hidden risks found in forward property markets and the pricing of presale property as an experience good under asymmetric information, an

analytical framework for the pricing of presale properties has been developed (shown in Figure 3.7). To fill the knowledge gap in understanding how asymmetric information affects the pricing of presale properties, the following must be addressed:

i. to identify the roots of the problems which undermine the effectiveness of the regulatory measures taken in deterring the hidden presale risks as shown in the risk-transfer mechanism (see Figure 3.5),
ii. to study whether a transfer of wealth from the buyers to the developers is imposed on the pricing of presale properties with the presence of the undeterred hidden presale risks compared to that of spot properties in which no hidden presale risks are present (see Figure 3.6), and
iii. to evaluate the recommended measures which can enhance transparency of information in the forward property market and help promote fair-pricing of presale properties.

Figure 3.7 The research framework



3.5 The Research Approach

This research has been undertaken in four phases through both qualitative and quantitative approaches, as shown in Figure 3.8. Phase 1 began with a comprehensive literature review to explore the hidden presale risks embedded in forward property markets and the measures taken to deter the risks by referencing the development of the forward property market in Hong Kong. The aim of this phase was to formulate the research framework for this study.

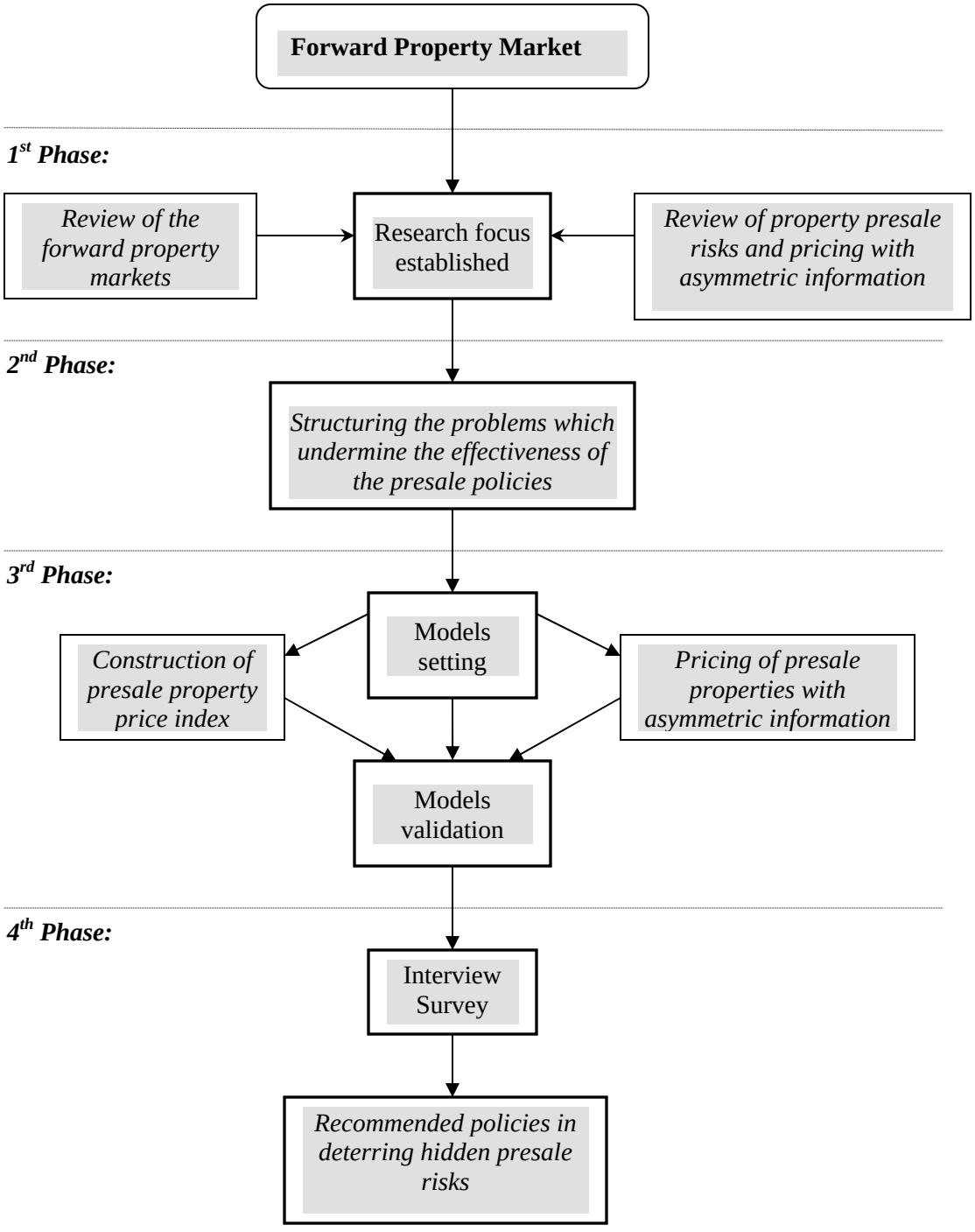
The aim of Phase 2 was to set out the approach for examining the regulatory system of the Hong Kong forward property market through the process of problem structuring. The focus was on identifying the roots of the problems which undermine the effectiveness of the regulatory measures taken in deterring the hidden presale risks. The process of problem structuring consists of the identification of problem situations, substantive

problems, and the roots of the problems. The problem situations of different stakeholders of the Hong Kong forward property market, in particular, the Government, REDA and the CC in overseeing the presale policies were analyzed.

In Phase 3, relevant pricing models were reviewed in order to develop an appropriate model for constructing the forward property price index which is efficient in reflecting the general price change of the forward property market compared to the spot property price indices. A pricing model was also developed which is able to capture not only the risks arising from the market uncertainty during the construction time-lag and the discount required to compensate for the additional capital finance within the forward contract period, but also the wealth transferred from developers to buyers on a purchase of a presale property due to asymmetric information inherent in the market.

In Phase 4, interviews with notable members from the pressure groups and professional bodies were conducted to collect their views on the operation of the forward property market and the issue of the hidden risks arising from the asymmetric information. Policy arguments were addressed with the aim of formulating more appropriate property presale policies which can enhance the transparency of information available in the market and help promote fair-pricing of presale properties. The factors which are critical to the development of forward property markets were also explored in this phase of the study.

Figure 3.8 The research approach



3.6 Summary

This chapter has presented an analytical framework for exploring the pricing of presale properties with the presence of asymmetric information. The study has shown that the risk-transfer mechanism is embedded in a forward property contract which helps developers to transfer the expected market risk and the capital finance risk during the construction time-lag to buyers. For buyers, apart from taking up the expected presale risks transferred, they have to bear the group of additional hidden presale risks arising from asymmetric information inherent in the forward property markets, which include the risks of development default, delayed delivery, high building defect risk, housing features mismatch, exaggeration of floor areas and the use of unethical presale tactics.

The presence of asymmetric information in forward property markets may have imposed an impact on the pricing of presale properties through the transfer of wealth from presale property buyers to developers. This is because developers have the incentive to hide information about the negative aspects of the presale properties. Without knowing the negative aspects, buyers may over-estimate the quality of the presale properties. This then enables developers to assign prices higher than those which buyers would have paid if they had possessed the negative information about the presale properties.

To fill the knowledge gap in understanding the pricing of presale properties with the presence of asymmetric information, three issues must be addressed in the analytical framework. The first is the identification of the roots of the problems which undermine the effectiveness of the regulatory measures in deterring the hidden presale risks. The

second is a study of the pricing of presale properties with the presence of the undeterred hidden presale risks compared to that of spot properties in which no hidden presale risks are present. The third is an evaluation of the preferred measures which can enhance the transparency of information in the forward property market and help promote a fair-pricing of presale properties. The research approach has also been provided to guide the process of the research.

CHAPTER 4 EXAMINATION OF PROPERTY PRESALE REGULATORY POLICIES

This Chapter examines the effectiveness of the property presale regulatory policies adopted in Hong Kong to deter the hidden presale risks arising from asymmetric information. First, the roles played by the institutional bodies, which include the Government, the REDA and the CC in overseeing the presale policies, are analyzed. By doing so, the problems arising from the hidden presale risks which cannot be deterred by the presale policies are identified. Second, the roots of the problems which undermine the effectiveness of the presale policies in deterring the hidden presale risks are explored.

4.1 Introduction

Leland and Pyle (1977) stated that asymmetric information undermines the direct transfer of information between market players and, therefore, is able to generate substantial rewards from exaggerating the positive qualities of the projects. Gardner (2003) also pointed out that if the information is biased towards some players, the deal will be unfair to those who do not possess the information. Garmise and Moskowitz (2003) stated that the hidden risks present in the forward property market are characterized by the heterogeneous nature of properties. As properties are highly unstandardized and buyers do not have the opportunity to inspect uncompleted properties, disputes arise when the features of the properties upon completion turn out to have deviated from what the buyers expected or what the developers originally promised in the presales. For these reasons, the Hong Kong Government takes it as its duty to protect the interests of consumers and

to mitigate the hidden presale risks embedded in the forward property market through the use of regulatory measures.

The regulatory system adopted by the Hong Kong Government in deterring the hidden presale risks has been discussed in Chapter 2. Apart from the use of administrative measures under the Consent Scheme to minimize the risk exposure of presale property buyers, the Government also promotes the use of the Three-Pronged Approach. This Three-Pronged Approach includes the self-regulatory measures set up by the REDA to guide the conduct of property presales of its developer members and the educational activities undertaken by the CC and the EAA to enhance consumer awareness and protection (see Figure 2.3).

Despite the regulatory measures taken, a survey conducted by the Political & Economic Risk Consultancy Ltd. in Hong Kong (PERC, 2005) reviewed that the local forward property market "has long suffered from poor transparency." There is a tendency in the industry to overstate the size of properties in presale promotions due to the lack of a standardized measure. Other surveys also reveal that prospective buyers are given insufficient and/or misleading information due to the slackness of controls on the information released. It has been claimed that some developers used grey areas for not adhering to the requirements stipulated in the presale guidelines set up by the REDA in order to boost the presale prices and number of transactions. For example, no price list was attached in the presale brochures to allow buyers to compare prices of different flats, and some developers had selectively announced details of the transactions in order to

ramp up the prices higher than the market prices (LRC, 1997, 2002; HKSAR, 2005[b]; SCMP, 2005; Lai, 2006). Some recent incidences relating to problems of presales of uncompleted properties in Hong Kong are contained in Appendix I.

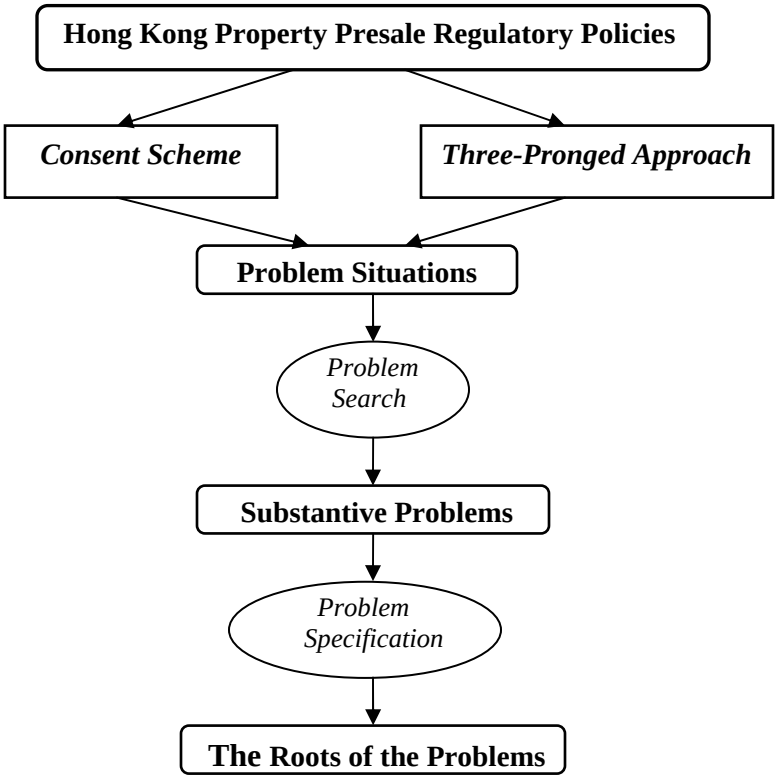
The ex-Chief Executive of the CC, Ms. Pamela Chan (2006-07), made a comment on the forward property market that, "while there are strict rules and regulations governing the disclosure of information on prices and volumes of share transactions to ensure fair deals, there are no similar satisfactory arrangements of (presale) property transactions, which involve more people and larger sums of money. A citizen buying food at a wet market has the benefit of clearly marked prices, but that may not be the case with the most important transaction (on a purchase of property) one makes in his life. People of course feel that is not right. *Fair dealing* is a necessary characteristic of all healthy markets." (Ming Pao, 2005).

As the number of complaints about inadequate and misleading presales information grows, there are increasing calls for measures to address the problems and for revision of the arrangements for selling uncompleted properties in the Legislative Council meetings (LC, 2000-2006). As such, what are the problems inherent in the regulatory system which call for the needs for reforms? To address this question, the following sections examine the current presale system adopted in Hong Kong with the aim of understanding the hindrances in exercising the regulatory measures adopted in deterring the hidden presale risks arising from asymmetric information inherent in the market.

4.2 Research Methodology

An evaluation of the policies being employed in the forward property market was conducted as a part of this study, with the aim of identifying the roots of the problems that undermine the operation of the presale policies. This process is known as problem structuring. According to Dunn (2004), problem structuring assists in discovering hidden assumptions, diagnosing causes, synethsizing conflicting views, and discovering and designing new policy options. As Dunn (2004) stated, "policy analysts seem to fail more often because they solve the wrong problem than because they get the wrong solution to the right problem." Adapting the analysis approach proposed by Dunn, the process of problem structuring on the regulatory measures taken in the forward property market was developed, as shown in Figure 4.1. The process includes the identification of problem situations, the substantive problems and the roots of the problems.

Figure 4.1 Problem structuring of the property presale regulatory policies



***Problem Situations* -** Weimer and Vining (2005) stated that understanding a policy problem involves assessing the conditions that concern the stakeholders. The assessment incurs policy inquiries in which searches are conducted in different situations. By doing this, stress arises if these situations are translated into disagreements reflecting the competing views of the different stakeholders. In the forward property market, the stakeholders include agency administrators like the REDA and the EAA, business leaders and financial institutions, consumer groups and pressure groups, the Government and legislators. As such, if there are signs to suggest that the situation is problematic and stress is found, problem searches are needed to interpret these signs of stress into structured problems.

Substantive problems - In moving from problem searches to substantive problems, the analyst needs to define the nature of the problems which undermines the effectiveness of the policies the most. According to Patton and Sawicki (1993), the analyst needs to frame the problems in concrete terms and to develop a statement which helps give an understanding of the problems' technical and political dimensions.

Roots of the problems - Once substantive problems have been specified, a detailed study must be carried out to seek the roots of these problems. According to Weimer and Vining (2005), stakeholders generally express problems as conditions that are perceived as undesirable symptoms or impacts. This is the analyst's task, to assess the symptoms and impacts and then provide an explanation of how they arise, i.e. to look for the roots of the problems. Once the roots of the problems are located, appropriate actions to eliminate the substantive problems can be tailored.

4.3 Problem Situations and Substantive Problems

A review of the forward property market in Hong Kong, including the regulatory system adopted, was presented in Chapter 2. To avoid duplication, this chapter focuses on examining the problem situations in the Hong Kong forward property market, in particular the effectiveness of the Government, the REDA and the CC in overseeing the forward market, and on substantiating the problems of the hidden presale risks.

4.3.1 Problem situation of the Government

The Government delegates the Lands Department to oversee the regulatory system for presales of uncompleted residential properties in Hong Kong by the use of administrative measures contained the Consent Scheme, the self-regulatory system and consumer education through the Three-Pronged Approach shown in Figure 2.3. However, there are incidents in recent years in which the hidden presale risks have still prevailed despite the measures taken in the presale regulatory system (see Appendix I). To address the inadequacy of protection for presale property buyers, the Law Reform Commission (LRC) conducted a series of studies in regard to the presales of uncompleted properties and a consultation paper was prepared in 2000 which made a number of recommendations. Details of the recommendations are contained in the "Sales Descriptions of Uncompleted Residential Properties Bill" issued in 2000, known as the "White Bill" (see Appendix IV) (HKSAR, 2000). The problem situation of the regulatory system to enhance the transparency of the market and deter the hidden presale risks is discussed as follows (LandsD, 1999-2002; LC, 2000-2006):

Developer's default risk **-** Since the introduction of the Consent Scheme in 1961, which included the set up of the escrow account to look after the presale money collected and the guarantee from banks to ensure the construction work, the measures seemed to be working well to protect presale property buyers from developers' default on the developments for over twenty years, until the outbreak of the Villa Pinada in 2003 (Next Magazine, 2003).

Villa Pinada was a low-rise residential building project which was supposed to be completed in mid-2003 and to have provided 319 housing units upon completion. It was developed by a small developer whose holding company had a capitalization of only HK$507 million[14] in early 2003. However, the project was taken over by the syndicated loan group led by a bank in May 2003 after the developer failed to settle a HK$200 million loan. The 204 buyers who bought the presale properties were caught by surprise and, worse still, they were faced with the possibility of having to pay their mortgages even if they lost the flats because the ownership of the project was then taken over by the creditors upon receivership. Not long after in 2003 another estate, The Aegean, which was developed by the same developer, also faced the same problem.

During the investigation, it was revealed that severe construction costs had been overrun by some contractors and much of the deposit had been claimed by fraud without adequate proof of works. Over a hundred affected buyers approached the CC for help. Through the mediation of the CC with the administrator, a rescuer was found to inject HK$350 million into the development project, and the units were eventually completed and delivered to the buyers in the next year. However, with the tight funding, it was reported that the finished interior works of the units were kept at a minimum standard and the quality and materials provided were far from what had been expected and promised. As a result of these incidents, the Government conducted a review of the practice and introduced additional measures. In order to avoid possible collusion between the parties who are involved in the use of money collected from the presales, it is mandatory that

[14] Compared to the market capitalisation of HK$33 billion of Sun Hung Kai Properties and HK$103 billion of Cheung Kong Holding Company, the top two property developers in Hong Kong, the developer of Villa Pinada is considered only a small-size listed developer.

these parties including the developer and the AP must declare any conflict of interest and also their relationship if any.

Delayed delivery – It is stipulated in the Consent Scheme that developers must compensate the buyers if they fail to deliver the property on/before the date specified other than force majeure reasons. However, delays still happen every now and then for different reasons. In normal circumstances, developers are keen to close the deals and thus there is no incentive for them to delay the completion. However, delays may occur during peak periods because all developments in the market are competing for the limited labour in boom times. There are also delays caused by disputes between the contractor and the developer on the construction, or with the Government on the use of land (Ming Pao, 2004; Apple Daily, 2005[a]). However, it seems that developers are reluctant to render compensation even if a delay is caused by their mismanagement of the project. For example, the delivery of "One Beacon Hill" in 2005 was delayed for five to seven months due to the unlawful felling of mature trees in the surrounding areas without the consent of the Lands Department. Unfortunately, the developer denied the buyers compensation for the delay. The buyers then sought help from the CC and the CC took the case to court. The case was still under legal proceedings at the time of this study being carried out (Apple Daily, 2005[a]; Next Magazine, 2005[a]).

Furthermore, the disclosure of information relating to delays is often not transparent. For example, the buyers signed the ASP with the developer in March 2006 on an uncompleted property located in Tsuen Wan which was supposed to be delivered on 30th

June 2007[15]. However, the buyers were informed by the developer and the AP separately, a few months after signing of the ASP, that the revised completion date approved by the Lands Department had been extended. The cause of the delay was not mentioned, and there was also no mention of how the extended period was calculated. Furthermore, the extension period shown in the two letters from the developer and the AP respectively were different, one for a period of 3 months and the other 67 days. The buyers deserved the right to know the reason for the delay and how the extended period was calculated.

High building defects **-** In the Consent Scheme, there is a clause stating that developers must ensure the works to be done in a good and proper manner and a warranty clause is also contained. Developers generally will undertake the rectification works, but in a very slow manner that often causes inconvenience to the buyers. Furthermore, not all defects are rectifiable. It is reckoned that the quality of buildings depends very much on the strategies pursued by different developers and the use of the sub-contracting system in Hong Kong. Some developers, apart from relying on the main contractor, are willing to appoint specialists to oversee different aspects of works, and therefore better control of and quality of the works can be obtained, though with a higher cost. On the other hand, where developers opt for a low-cost strategy and appoint contractors and sub-contractors at the lowest bidding prices, it is not surprising that the quality of their developments is found to be lower or even substandard.

[15] The information was collected from the interviews conducted with the buyers of the said properties in July 2007.

An example is the case of a residential estate developed by a large developer in Hunghom District in 2001. Despite the exterior looking very attractive, the buyers were shocked by the sub-standard interiors when they collected their properties (see Appendix I). A lot of complaints were made about another housing located in Tung Chung District built by the same developer in 2005 (Lee, 2007). According to the records of the CC, out of the total of 346 complaints related to properties received in 2006, 60 cases were about building defects[16], such as leakage through windows, inferior internal finishing, uneven walls and flooring, damaged wall tiling, defective cupboards and sanitary ware, etc. Unfortunately, the information relating to the issue of building defects is scattered and there are hardly any databases or regular reports available to provide consumers with updated information on the seriousness of building defects. Furthermore, many buyers are reluctant to speak out about the building defects of the properties that they have bought from presales publicly, fearing that the resale value of their properties will be hit because of the negative publicity. These have in turn made the study difficult because of the unavailability of relevant data or the availability of only limited information.

Exaggeration of saleable area - It is mandatory in the Consent Scheme that compensation must be rendered to buyers if the saleable area of the completed property differs from what is stated in the forward contract by a variation of over 5%. However, the method of measurement of saleable area has not been standardized and there have been instances of so-called “shrunk flats” in which the actual floor areas of the flats turned out to be much smaller than that shown in the presale promotion materials (LRC, 1997).

[16] The data were collected from the interview conducted with the Chief Executive of the CC in July 2007.

There are two kinds of methods commonly used for measuring floor areas in the industry, i.e. Gross Floor Area (GFA) [17] and Saleable Floor Area (SFA) [18]. GFA is used by developers to compute the premises for sale transactions in the market so that cost per unit floor area can be worked out for the reference of prospective buyers (HKIS, 1999). SFA is used by developers to state the floor area exclusively allocated to the property unit for sale. The Building Ordinance has specified the common areas to be included in the calculation of GFA for the use of the Government and the calculation of SFA has been stipulated in the Consent Scheme promulgated by the Lands Department. However, the Government has not forced the private sector to adopt these measurement methods and thus developers can choose to use their own measurements.

In the 1980s developers used to follow the standard adopted by the Buildings Department in calculating the GFA and SFA of buildings, which did not take into account podium and parking lots or the ancillary facilities. But now, developers try to increase the floor

[17] GFA is defined in the Building (Planning) Regulation published by the Buildings Department as the area contained within external walls together with the area of each balcony of the building. The Hong Kong Institute of Surveyor (HKIS) further published the Code of Measuring Practice (1999) and explains that the GFA for a unit comprises the Saleable Area of a unit plus a proportionate share of all common areas within the building. It also states that GFA is used to compute the premises for transactions. Common Area refers to the area shared by all owners in certain percentages. It usually constitutes car parking spaces, mechanical rooms, transformer rooms, refuse chambers, amenity and recreational facilities or other similar provisions (HKIS, 1999).

[18] SFA is defined by the Lands Department as the area "in relation to a unit enclosed by walls, the floor area of such unit measured from the exterior of the enclosing walls of such unit except where such enclosing walls separate two adjoining units in which case the measurement shall be taken from the middle of those walls. The floor areas shall also include any balconies and verandahs, cocklofts, bay windows, carparking spaces and terraces attached to the unit, but exclude the common parts outside the enclosing walls of such unit" (LandsD, 1999). It is also defined in the Code of Measuring Practice published by the HKIS as "*The floor area exclusively allocated to a unit including balconies but excluding common areas. This means the area contained within enclosing walls of the unit measured up to the exterior face of external wall or centre line of a separating wall between adjoining units*" (HKIS, 1999).

areas by including these facilities in calculating the GFA and SFA in order to make more floor areas for sales because of the lack of a standardized measurement method in the market. As a result, the efficiency level of recently-built properties, i.e. the net Internal Floor Area (IFA) of the flats after deducting the common areas and the ancillary facilities like the utility platforms for placing air-conditioners to the GFA, is getting smaller and smaller. The IFA was, previously, roughly about 80% of the GFA, but now it has come down to around 60%, or even 30% in some extreme cases[19].

To avoid the confusion caused to buyers due to the absence of a standardized method for measuring floor areas, the White Bill recommended that the common areas which are included for calculating the GFA, and the ancillary facilities like the areas of bay windows, roofs and utility platforms for air-conditioners which are included for calculating the SFA should be listed separately. Furthermore, it was also recommended that the disclosure of the IFA or the net usable area can give a clear picture to the buyers of the exact areas which could be put to use. The IFA refers to the floor area contained within the internal walls of a property but excluding all internal partitions. The paper also proposed to allow the buyers to rescind the ASP if the descriptions contain significantly inaccurate or incorrect information on the dimensions of the SFA or GFA.

The recommendations were supported by The Hong Kong Institution of Engineers (HKIE), The Hong Kong Institute of Surveyors (HKIS) and the CC. They believed that the introduction of the statutory requirements for accurate descriptions of uncompleted

[19] For example, in a flat which was claimed to have a GFA of 1078 ft^2 with SFA of 857 ft^2, the IFA inside the flat was found 640 ft^2, only about 60% of the GFA (Appendix I).

residential properties would enhance the transparency of information in the market. However, the recommendations were objected to by the REDA for the following reasons:

- the measurements are not available at the time when the presales brochures is prepared due to technical difficulties;
- the actual construction and finishing process can affect the thickness of walls to deviate from the estimates and hence the IFA;
- the external walls are in fact sold as an integral part of a unit together with the areas so encased;
- the listing of the SFA and the GFA calculated is preferred because such descriptions are used widely and understood easily.

Eventually, the recommendations of the White Bill were turned down by the Government based on the reasons that the information relating to the measurement of floor areas may change "due to factors beyond the developer's control" (LC, 2000[c]). However, the row over the measurement of floor areas used in presale brochures has never stopped. In response to the urging of the public, in 2007 the HKIS proposed to revise its current "Code of Measuring Practice of Saleable Area" so that the SFA of a unit would be measured in two parts, namely "Core Saleable Area" (CSA) and "Ancillary Saleable Area" (ASA) (see Appendix VIII). CSA refers to the core areas which "are roofed with headroom and capable of full normal occupation". ASA refers to the ancillary areas such as bay windows, yards, plant room, meter room and others. The HKIS also proposed to exclude the features such as moldings, architectural fins and air-conditioning platforms in calculating the SFA (Chung, 2007). Yet no consent had been reached among the

different parties concerned in regard to the proposal when this thesis is written. The risk of exaggeration of the floor areas in a purchase of a presale property is still present because of the lack of standardized measurement.

Features mismatch upon completion - It is stipulated in the Consent Scheme that the ASP should contain a description of the fittings and finishes, for example the door panels, the type of kitchenware and bathing facilities. If a sample property is offered, it should be accurate in terms of dimension and partition. However, the descriptions of the property made in ASP are usually vague and subject to change. Many developments had been marketed as luxurious housing estates in the sample flats and presales brochures, but turned out to be no different from ordinary residential flats without the deluxe internal fittings/decoration, nor the communal/recreational facilities prescribed in the presales. Furthermore, according to the Consent Scheme, sellers are only responsible for the costs of "completing the construction of the development in accordance with the building plans and in rendering the development fit to qualify for the issue of the Occupation Permit" (LandsD, 1999).

There is little protection given to buyers in regard to compensation if any mismatch is found between the promised and actual fittings and finishes. For example, in the presale of "Royal Jubilee", the developer used the high ceiling-height as the selling point of the estate and claimed that the height of the flats was as high as 9 ft 7 in. However, it turned out to be only 8 ft 10 in upon completion. The developer denied compensation when the presale buyers made the claim. It was only after the CC stepped in that the developer

agreed to compensate for the affected buyers (Hong Kong Business, 2007). There were other complaints which included absence of the specified scenes in the surrounding areas, lack of the communal/recreational facilities mentioned in the presale brochures and unrealized promised transportation provisions (see Appendix I).

To address the concern of the mismatch, the White Bill recommended that presale brochures should contain a description of fittings and finishes and also a statement as to whether the interior finishes, fittings, appliances and furniture displayed in the sample property are included in the presale price, as along with the country or region of their origin. Presale brochures should also contain a notice that substitute materials may be used provided that the AP certifies them to be of equivalent standard to those specified in the presale brochure. The information contained covers matters for consideration within the developer's control and are presumed to be implied contractual terms. Buyers may seek compensation for losses from breach of contract if the information contained in the ASP relating to the fittings and finishes is found to be inaccurate.

As sample properties provide important references for potential buyers, it is also recommended that developers should keep the relevant presale brochures, miniature models and photographs depicting the interior of the sample properties as evidence to facilitate proof in court if necessary. If no presale brochure is offered before the presales, a fine of HK$5 million may be liable upon indictment. If the dimension of any part of the sample property is different from what has been stated in the documents including the

presale brochure, an offence is committed and a fine of HK$1 million may be liable upon indictment (HKSAR, 2000).

Both the HKIE and the Hong Kong Institute of Architects (HKIA) supported the recommendations and shared the views that consumers' best interests could be protected by the recommendations. However, The HKIA also considered that there are difficulties in requiring the AP to certify that the alternatives of finishes and fittings are of an equivalent standard. Instead, they recommended that buyers should be informed of the changes so that they can decide whether the changes are acceptable before taking any action. However, the REDA objected to the recommendations relating to fittings and finishes for the reason that it would be difficult for developers to ensure details such as the types of fittings and finishes before the completion of a development, therefore changes in these details should not be made a possible offence. Following the response from the REDA, the Government suspended the recommendations based on the reason that "there might be practical difficulties for developers to keep the sample property for an extended period of time" (LC, 2000[c]).

Unethical presale tactics - To enable prospective property buyers to get hold of adequate and accurate information, certain mandatory disclosure of information is required by the Consent Scheme to make the forward market transparent. A presale brochure containing the required information and the price list should be made available to prospective buyers before the commencement of the presales. Furthermore, the REDA, at the request of the Government, introduced in June 2001 a self-regulatory system for its members to follow

when selling uncompleted residential units. The guidelines require developers to state in the brochure a variety of information about the development offered for presales, which include the price list, location plan showing the communal facilities, an Outline Zoning Plan showing nearby existing and planned land use, the SFA and GFA of units, etc. The effectiveness of the self-regulatory system will be discussed in the following section.

4.3.2 Problem situation of the REDA

In order to enable prospective buyers to get hold of adequate and accurate information, the REDA, at the request of the Government, introduced in June 2001 the self-regulatory regime for selling uncompleted residential units. The key issues contained in the guidelines include:

- provision of presale brochures and other essential information
- provision of price list
- announcement of presales performance
- conduct of presales
- engagement of estate agency
- monitoring of compliance

The Government believes that any breach of the guidelines would generate a negative impact on the reputation of developers and could also affect their presale performances. As long as developers genuinely comply with the guidelines issued by the REDA, the interests of prospective buyers will be protected and, as such, more mandatory conditions will not be required (HKSAR, 2005[b]). However, in May 2005, some developers

breached the guidelines and did not provide price lists of their developments in the presales. The report aroused the public's concern, and the REDA, with the urging of the Government, revised the guidelines in June 2005 to enhance the transparency of the presale mechanism. Under the new arrangement, price list and the list of the units on offer in a presale should be made available to prospective buyers 24 hours before the presale begins, and the price list of additional units should be made available "as soon as possible". Details of the revised guidelines are contained in Appendix II.

Despite the new arrangement, it was not long after that similar events happened again in 2006, for example withholding price lists from potential buyers and disseminating information to the property market to boost the presales (see Appendix I). Prospective buyers were also given information that had been released selectively, and there were no transaction records found in the Registry on some presale figures released by the developers. As a result, without getting hold of full information of the properties for presales, some buyers found that they had paid a price much higher than that of similar units ranging from 11.89% to as high as 15.11% (see Appendix I).

Every time that mis-handling of the presales aroused public concern, the Government would urge the REDA to step up its efforts to ensure compliance with the guidelines by its members, but no further disciplinary action was taken. In responding to the urge of the Government, the REDA revised the guideline that "developers are free to decide on whether or not to make public the results of their sales, but if they choose to publicize, any information provided must (only) be *as accurate as possible*" (Wong, 2006). To

consumers, the revised statement can hardly enhance the protection for presale property buyers (Ming Pao, 2006). Criticisms of the loopholes in the guidelines, cited from Ming Pao (2006), that, "the guidelines are not legally binding, breach of them does not attract liability", vividly indicate that the self-regulatory regime falls short in serving the purpose of protecting presale property buyers.

4.3.3 Problem situation of the CC and the EAA

The CC plays a part in the market to undertake activities to enhance consumer protection in matters relating to property presales. For example, a pamphlet has been published by the CC and the EAA to be inserted in presale brochures to remind prospective buyers of the issues to which they need to pay attention (see Appendix III). Awareness-raising and educational measures are also undertaken by the CC to teach buyers how to take appropriate action on their own behalf to safeguard their rights. It also aims to pass the message to the public not to come to hasty decisions to buy properties on account of reports that certain new projects are selling fast. The CC has also taken the lead to help presale property buyers to mediate with the developers when disputes arise. In some incidents, the CC even took the case to the court on behalf of the affected buyers against the developers when mis-representation in the purchases was found (see Appendix I).

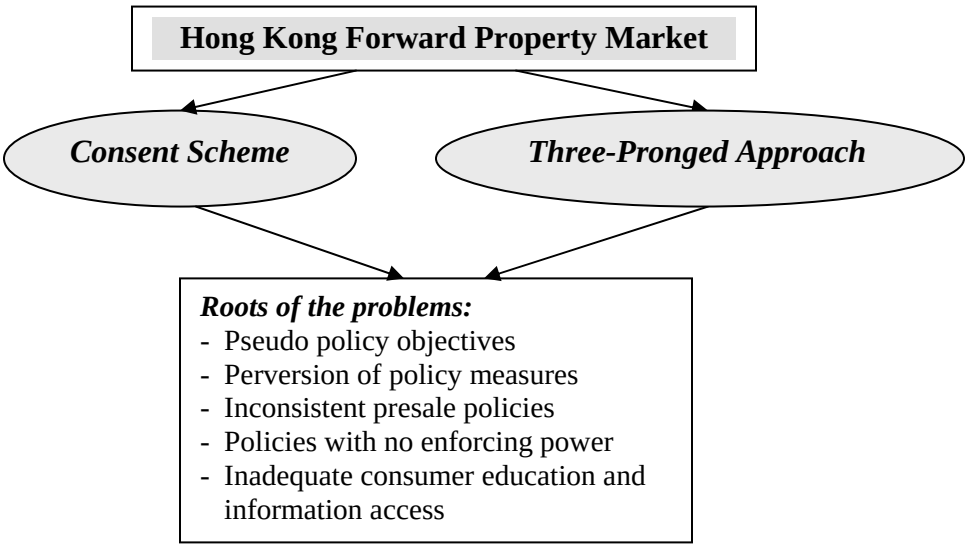
The EAA has given guidelines to its estate agent members that the information given by agents must be accurate. However, there have been many complaints about estate agents pressurizing buyers to close deals using misleading information which included boosting presale prices and transaction volumes and also giving little time for the buyers to make

decisions. According to the records of the CC, among the 346 complaints received in 2006 related to properties, 91 cases were about the mal-practices of estate agents[20].

4.4 The Roots of the Problems

Following the examination of the problem situations of the different stakeholders, insights can be drawn about identifying the roots of the problems which undermine the effectiveness of the presale policies in deterring the hidden presale risks found in the Hong Kong forward property market.

Figure 4.2 The roots of the problems in the Hong Kong forward property market



4.4.1 Pseudo policy objectives

The Government reiterated that it is committed to maintaining a regulatory system which can protect presale property buyers and will revise the Consent Scheme from time to time through legislation to enhance the efficiency of the forward property market. However,

[20] The figures were collected from the interview with the Chief Executive of the CC on 26 July 2007.

when it came to critical decisions, the Government always tended to favor developers. For example, all the recommendations proposed by the LRC in the White Bill prepared in 2000 to deter the hidden forward risks were suspended. Following the repeated outcries from the public on the mis-handling of the conduct of property presales, discussions were brought to the Legislative Council again in 2003, 2005 and 2006 to review the use of legislation to regulate the presale practices and to enhance the information transparency. Once again, all the recommendations proposed in these meetings were suspended by the Government (LC, 2000-2006).

The lack of Government commitment to protecting presale property buyers is very much related to the high-land price policy. Bacani and Hamilton (1997) stated that "the strong real estate market is a plus in Hong Kong, where property investment is a traditional way of making money". This is true not only to developers in Hong Kong but also to the Government. The Government has been adopting the high-land-price policy by restricting the supply of land through the so-called "Land Application" system[21]. However, property developers, with limited land banks, have called on the Government to resume regular land auctions in recent years, but to no avail (Apple Daily, 2007[b]). Professor Francis Lui, Professor of Economics at the Hong Kong University of Science & Technology, stated that "the Government denies it has a high-land-price policy … (But) what we have in Hong Kong is a policy to restrict land supplies. The result is the same as having a high-land-price policy" (Lai, 2007). Lest the recommendations made in the

[21] Through the Land Application System, land is released for public sale only if the developer(s) applies to the Lands Department to show its interest in bidding for the land. The Lands Department will consider releasing the land for auction if the proposed bidding price offered by the applicant is considered satisfactory or "high enough".

White Bill might upset the developers' interest in participating in the Land Application System and affect the income generated from the land sales, the Government thus chose to suspend the recommendations.

4.4.2 Perversion of policy measures

Perversion of policy measures is another root of the problems affecting the effectiveness of the presale policies. Examples are the measures taken to promote green and innovative buildings. To enhance a green environment in Hong Kong, the Government introduced the Joint Practice Note on Green and Innovative Buildings in 2001. The Note encourages developers to construct environment-friendly buildings by exempting the features from the calculation of a building's GFA. These green features include balconies, utility platforms, bigger lift lobbies, mailbox rooms etc. Developers could build more of these features without paying an extra land premium for the additional GFA built.

However, the GFA exemption given to these green features has other side effects. Although the additional GFAs created by these green features are exempted from the calculation of the land premium, they are included by developers in the GFAs sold to buyers so as to boost up the floor areas for presales and the prices without the knowledge of the buyers in the presales. As a result, many buyers have complained that the IFAs of the newly-built flats had shrunk further because of the inclusion of green features which had not been covered in the presales. The IFAs of recently-built residential properties

turned-out to be around 60%[22] only of the GFAs stated in the presale brochures (SHK, 2007). Although the Government introduced the Joint Practice Notes with good intentions to improve the green environment, the result has perverted the wish to deter developers from exaggerating floor areas.

4.4.3 Inconsistent presale policies

For the purpose of monitoring the progress of presales, stipulations were made in the Consent Scheme for an unaudited report on the conduct of the presales proceedings, the identification of buyers and the selection of flats to be submitted to the Lands Department within 7 working days of the agreement being made. Thereafter, a formal report audited by an independent professional person within 1 month specifying the total number of units put up for presale, the number of applications, method and result of the allocation of the units and the identification of the buyers must be submitted. Also, the unaudited returns have to be updated on a monthly basis until agreements for the presales of all the units have been completed (LandsD, 1999).

However, due to the downturn of the market in late 1997, all these measures were removed with the aim of revitalizing the property market (LandsD, 2001[a]). Whether the

[22] Buyers of a development project in West Kowloon have paid 20% of the prices of their flats for the common areas and another 10% for the ancillary facilities detached to the flats. Based on the price list, a 758 ft^2 unit, which costs HK$4.579 million, needs to contribute 143 ft^2 of common area and 66 ft^2 of the ancillary facilities. This means buyers have paid HK$915,800 for common areas alone and HK$457,900 for the ancillary facilities. The common areas include the staircases, corridors, entrance lobby, telephone equipment room, refuse room, transformer room, electrical switch rooms, meter rooms and the management office and its washroom; whereas the ancillary facilities include bay window (27 ft^2), balcony (23 ft^2) and utility platform for placing air-conditioning (16 ft^2). Excluding the common areas, ancillary facilities and the internal partitions, the net usable area (IFA) of the flat is only around 60% of the GFA quoted (SHK, 2007).

removal of these measures has been able to revitalize the market is questionable, but it is for certain that the transparency of the presale transactions made to the public has been dampened, and developers are able to selectively release the information which is favourable to the presales[23]. Furthermore, unethical measures have also been used to conduct the presales. In the presales of a development project in 2006, it was found that many duplicated cheques were submitted by estate agents as deposits for the purchases in order to make the properties look as if they are in dire demand, and these duplicated cheques, of course, would not be cashed (Appendix I). It is apparent that further action is needed in monitoring the conduct of property presales.

4.4.4 Policies with no enforcing power

It had been the practice in the market to pre-sell uncompleted properties through "public" presales in which developers were required to adhere to the list of requirements stipulated in the Consent Scheme before they could offer the presales. However, since the relaxation of "internal" presales, developers have opted for internal presales instead of public presales so that they do not need to adhere to the list of requirements. Although the REDA has set up a set of self-regulatory guidelines to enhance the efficiency of information available in the market, the self-regulatory regime suffers from a number of flaws (Ming Pao, 2006):

- lack of any channel to collect and address claims and complaints
- lack of enforcement and proportionate penalties for regulation-breakers
- lack of a third party to monitor the handling.

[23] Changes of presale property policies from 1994 to 2006 are contained in Appendix IX.

The prime duty of the REDA is to represent its members' interests. There are doubts about whether it can both represent the interests of their members and aspire to a public interest role. Furthermore, the rules imposed by the body may have a persuasive influence, but it seldom has real disciplinary power over its membership and is generally in a weak position to enforce the rules effectively. Therefore, this policy will not generate tangible and meaningful benefits for consumers if the self-regulatory system is not put under the scrutiny of the public and empowered with enforcing power (NCC, 2000).

4.4.5 Inadequate consumer education and information access

Although the CC has indicated that it would step up educational activities as necessary to enhance consumer protection in matters relating to property presales, little has been published in terms of information relating to complaints about property presales. Materials relating to these issues for public scrutiny are scattered and limited. There are hardly any databases to collate the complaints for public reference and only piecemeal reports are prepared by different institutions.

Although the purchase of a property very often incurs a substantial saving for the buyer and the Government keeps on reminding consumers to be careful in making their purchases, there has been little action taken by the CC or the Government to publish the complaints data or relevant statistics or studies for general public access.

4.5 Summary

This chapter has set out the approach to evaluating the regulatory system of the Hong Kong forward property market through the process of problem structuring. The process consists of the identification of problem situations, substantive problems, and the roots of the problems. The problem situations of different stakeholders in the market, including the Government, the REDA and the CC, in overseeing the presale policies have been analyzed. By doing so, the problems arising from the hidden presale risks inherent in the forward market which may affect the pricing of presale properties have been identified. They include the problems arising from the hidden presale risks relating to a developer's default, delayed delivery, high building defects, exaggeration of saleable areas, features mismatch upon completion and the use of unethical presale tactics.

Following the analyses of the problem situations and the recommendations made in the White Bill, insights have been drawn into identifying the roots of the problems which can help generate important information for proposing appropriate policy options for deterring the hidden presale risks. They are namely the pseudo objectives pursued by the Government in the policies, the impact of the green policies recently introduced has perverted to the wish of the presale policies undertaken, inconsistent presale policies being used, policies with no enforcing power and inadequate consumer education and access of information relating to presales of uncompleted properties.

CHAPTER 5 CONSTRUCTION OF FORWARD PROPERTY PRICE INDEX

This chapter provides a review of the current models available for the construction of both forward and spot property indices. By focusing on the forward property market in Hong Kong, an improved model for constructing the forward property price index is developed. It can help examine the price movement of presale properties with respect to the additional risks embedded in the forward property market. Comparison of the improved forward property index with the spot property indices during the study period is made.

5.1 Introduction

Extensive studies have been conducted to establish comprehensive models for property pricing and for constructing price indices of the sale transactions on spot properties. Locke (1990) adopted the adjusted present value technique in pricing property investment which is considered free from arbitrary judgment. Draper and Findlay (1982) made a comparative study on the use of Capital Asset Pricing Model (CAPM), Arbitrage Pricing Theory (APT), and Hedonic Price Model (HPM) on estimating the price appreciation on real estate based on the market equilibrium concept. Tse (1997) used a mixed autoregressive and moving average model known as the ARIMA model to study the pattern of real estate prices, in particular to show how to determine the cyclical turning points in a real-estate price series. However, there is only limited research studying the price behaviour of presale properties due to a number of technical reasons. First, transactions of presale properties are deprived of a central market place and,

therefore, information is scattered. Second, the small number of transactions in forward property markets in many cities hinders the investigation of the pricing of presale properties (Chau *et al.*, 2003).

In order to hedge against future price appreciation and get their desired housing attributes, buyers of presale properties have to bear the additional market risk and capital finance risk transferred from developers during the construction time-lag, as well as the hidden risks arising from asymmetric information inherent in a forward property market as shown in Figure 3.5. However, all decisions bear a cost. If an extra cost has been imposed in the pricing of presale properties due to the additional risks borne, there must be times when the price movement in the forward property market deviates from that of the spot market because of the higher cost imposed on the purchases of presale properties compared to that of spot properties in which no presale risks are present.

5.2 Literature Review

Chau *et al.* (2005) examined the various methods for the construction of property price indices being used in Hong Kong and summarized the three main difficulties encountered using transaction-based methods. First, property markets are usually thin with properties not transacted often. Second, the measured price change is contaminated by the variation of quality due to the heterogeneous characteristics of different properties contained in the periodical data set. Third, the quality of a property may change over time due to aging. For these reasons, a price index constructed using transaction-based methods may capture the change in the quality of a property undesirably over time apart from the general price

change (Bailey *et al.*, 1963). Some researchers have advocated the use of valuation-based methods to circumvent the insufficiency of transaction-based methods. However, problems such as the types of variables to be included in the pricing model and the appraisal-smoothing effect have yet to be addressed (Geltner *et al.*, 2003).

Another method which has been disseminated broadly is the use of a repeat sales method based on the seminal theory of Rosen (1974). Rosen formulated the Hedonic Pricing Model (HPM) which shows that properties can be described by packages of a number of attributes, such as location, size and facilities. Each property has a quoted market price which reflects the implicit value of the attributes embedded in that property, and this implicit value guides both buyers and sellers' choices regarding the packages of attributes that they bought and sold. By incorporating a set of coefficients of time dummies into the HPM, a series of price indices can be computed from the Model as shown in Equation 5.1 below (Palmquist, 1980; Shiller 1993; Quigley 1995),

$$\ln P_{St} = \sum_{j=1}^{J} \varphi_{jt} X_{jt} + \sum_{t=1}^{T} \alpha_t D_t + \varepsilon_t \qquad \text{E5.1}$$

where

$\ln P_{St}$ = logarithm of the transaction price of the spot property at time t

φ_j = implicit price for the j^{th} property characteristic X_j

X_j = housing attributes from $j=1$ to J which form the property characteristics

α_t = logarithm of the price index at time t

D_t = time dummies set to 1 if the property is sold at time t and set to 0 if otherwise

ε_t = error term with mean zero and variance σ_ε^2

The Repeat Sales Pricing Model (RSPM) developed by Shiller (1993) is built along the theoretical framework of the HPM. It states that the quality of a spot property possesses a package of attributes which remain unchanged between times. Under this assumption, all spot properties have the same price path through time. Changes in the price index occur only in response to changes in prices of individual property sold which indicate the time value required by the investor to cover the market risks borne between the two sales. Adapting the theoretical framework, Chau *et al.* (2003, 2005) formulated the functional form using the repeat sales method, as shown in Equation 5.2, for construction of the spot price index,

$$\ln P_{St_2} - \ln P_{St_1} = \sum_{j=1}^{J} \varphi_j (X_{jt} - X_{jt}) + \sum_{t=1}^{T} \alpha_t (D_{t_2} - D_{t_1}) + (\varepsilon_{t_2} - \varepsilon_{t_1}) \qquad \text{E5.2}$$

$$\ln P_{St_2} - \ln P_{St_1} = \sum_{t=1}^{T} \alpha_t D_t + v_t \qquad \text{E5.3}$$

where

t_1 and t_2 = time of the first sale and second sale of the property

D_t = time dummies measuring the change of price index between the holding period of the property, the dummy is set to 1 if the property is sold at time t_2, -1 if the property is sold at time t_1, and to 0 if otherwise

α_t = logarithm of the price index in the spot property market

v_t = error term

This method has the advantage of avoiding the functional form required in the HPM of measuring the unique characteristics of the properties, however, the Model has been criticized for its ignorance of the aging effect. Yiu (2002) stated that when a building ages, its productivity will decline due to the physical deterioration of the building structure.

Chau *et al.* (2003) also extended the use of the repeat sales method to construct a Forward Contract Repeat Sales (FCRS) Model for examining the price movement of presale properties and for investigating the equilibrium relationship between the forward and spot property markets. To construct the FCRS Model, Equation 5.3 is rewritten as,

$$\ln P_{Ft_2} - \ln P_{Ft_1} = \sum_{t=1}^{T} \gamma_t (D_{t_2} - D_{t_1}) + \eta (y_{t_2} - y_{t_1}) + e_t \qquad \text{E5.4}$$

where

$\ln P_{Ft_2}, \ln P_{Ft_1}$ = logarithm of the presale property prices at t_2 and t_1

γ_t = logarithm of the price changes in the forward property market

$y_{t_2} - y_{t_1}$ = discount required to compensate the capital cost during construction time-lag

η = coefficient attached to the discount factor

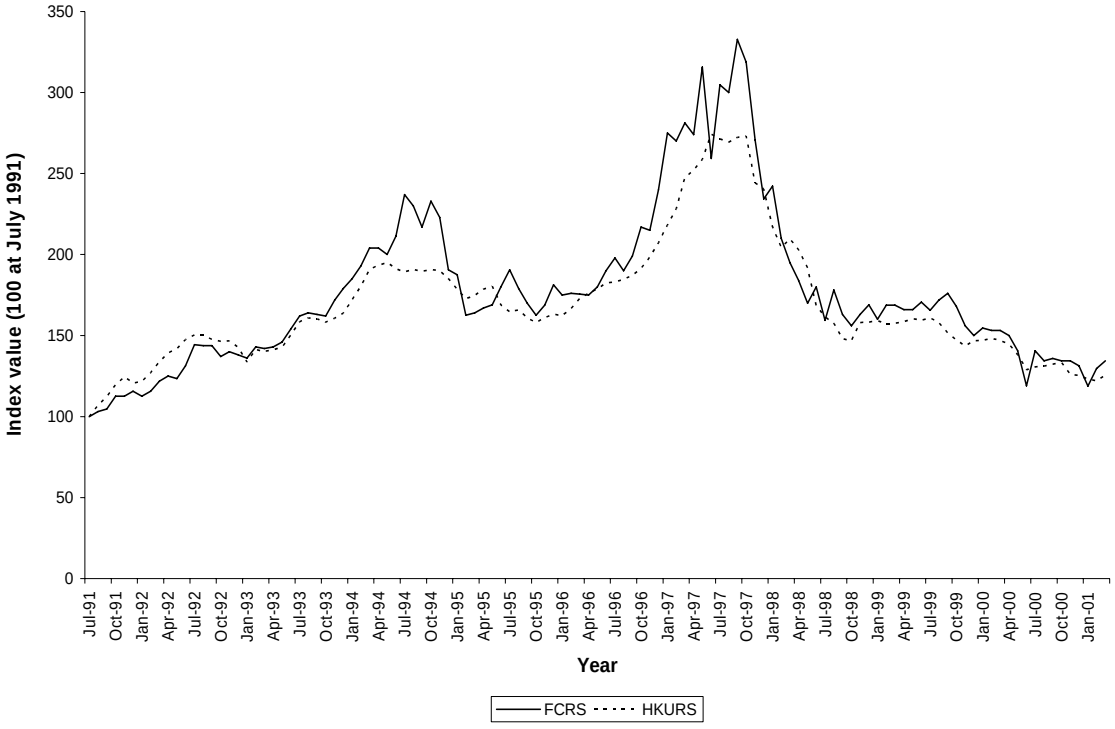
e_t = error term

To apply Equation 5.4 for constructing the FCRS Index, pair-sales of uncompleted properties with both transactions taking place only in the forward market (*i.e.* in form of forward-forward (F-F) pair-sales) are used for the study. Equation 5.4 implies that any difference between the forward pair (F-F) prices depicts not only the change of price

indices between the two presales, it should also reflect the discount required to cover the loss of rent during the forward contract period, *i.e.* the construction time-lag. Chau *et al.* (2003) also pointed out that since the presales used for testing the Model are all uncompleted properties which are free from physical depreciation, the FCRS property price index constructed is, therefore, free from any multicollinearity problem between the building age and time.

Figure 5.1 shows the FCRS Index in Hong Kong from 1993 to 2001 constructed using forward pair (F-F) prices based on Equation 5.4. The spot property price index was also constructed for the same period using spot pair-sales, *i.e.* both transactions took place in the spot market in form of spot-spot (S-S) pair-sales, based on Equation 5.3 published by the Hong Kong University (HKURS). Although the Figure shows that the trend of the FCRS Index reconciled in general with the HKURS Index during the study period, there were two questions yet to address. First, the FCRS Index overshot the HKURS Index in many sub-periods. It might be due to the reason that the repeat sales model used for constructing the HKURS Index (Equation 5.3) failed to take asset depreciation into account, causing the spot prices to be underestimated over time.

Figure 5.1 The FCRS (forward) Index and the HKURS (spot) Index



Source: Chau *et al.* (2003)

Second, it was apparent that the FCRS Index fluctuated more vigorously between the sub-periods compared to the HKURS Index. This was very likely attributed to the limited data available for the periodical testing. Only 3,062 forward pair-sales were available compared to 270,000 spot pair-sales for the test which covered a study period of 120-months from 1991 to 2001. Therefore, it was not surprising that the limited data collected for constructing the FCRS Index in each month might be susceptible to bias on certain property types[24]. For example, there was a big drop in the presale prices of

[24] The residential stocks included in the study are defined as independent self-contained domestic units following the definition adopted by the Rating Valuation Department. They are categorized into 5 Classes according to their sizes measured in saleable area. Class A properties are considered as small units of less than 40 m^2. Classes B and C are medium units which are most popular in the territory. Class D and E properties are considered as large units from 40 m^2 to 99.9 m^2.

approximately 16% in June 1997, followed by an impressive 14% increase in the following month. The vigorous rise and fall of the property prices within the 2 months was simply not convincing and far from reality, and the problem was very likely to be caused by the limited data available for the periodical testing which were biased towards certain types of properties. The problem was also highlighted by the study of Englund *et al.* (1999) that "the difference between estimates of price movements can be attributed to the data limitations which are inherent in the repeat sales approach."

5.3 Research Methodology

Chau *et al.* (2003) made a first attempt in building the FCRS Model for the construction of the first forward property price index using presale properties, which has induced important insights for further research in this area, despite the limitations discussed above. To enhance the validity of the results generated from the FCRS Model, a promising means is to increase the size of the data set. Relying purely on uncompleted properties contained in the F-F pair-sales certainly limits the data available. If the data set can be expanded, whilst all the first transactions remain as presales, to allow the subsequent sales to include spot transactions of the same set of properties in the forward property repeat sales (FPRS) pairs, *i.e.* in the form of forward-spot (F-S) pair-sales, the data set can be enlarged to improve the validity of the index constructed. Also, the difference of the FCRS (F-F) pair-sales can reflect only a portion of the discount required for compensating the additional capital finance risk borne during the construction time-lag since the project remains unfinished when the second presale is conducted. But the difference of the FPRS (F-S) pair-sales is able to capture the full compensation required

to cover the presale risks of the uncompleted property by comparing its price sold in the forward market with its price sold in the spot market in its subsequent sales. Apart from speculators who wish to earn a quick return through buy-and-sell in the forward property market, many presale property buyers are actually investors and/or home-seekers who intend to keep their properties for a longer period[25]. For these buyers, a forward property price index constructed using F-S pair-sales of the same set of properties can reflect more effectively the amount of risks involved in investing in a presale property compared to a spot property.

5.3.1 The FPRS Model

Incorporating the forward-spot (F-S) pair-sales, the FPRS Model is developed in Equation 5.5 for measuring the general price change of presale properties written as,

$$\ln P_{St_2} - \ln P_{Ft_1} = \sum_{t=1}^{T} \alpha_t D_t + \phi(r\tau) + \gamma A_{t_2} + \varepsilon_{t_1 t_2} \qquad \text{E5.5}$$

$$\ln \frac{P_{St_2}}{P_{Ft_1}} = \sum_{t=1}^{T} \alpha_t D_t + \phi(r\tau) + \gamma A_{t_2} + \varepsilon_{t_1 t_2} \qquad \text{E5.6}$$

where

D_t = time dummies measuring the change of price index between the holding period of the property, the dummy is set to 1 if the properties is sold at time t_2 in the spot market, -1 if the property is sold at time t_1 in forward market, to 0 if otherwise

α_t = coefficients attached to the time dummies, D_t

[25] From the twelve housing estates selected in the sample set, 5583 properties were found to have forward pair-sales during the study period. Among them, both the first two sales of these properties transacted in the forward market (while they were still under construction when the two sales were transacted) accounted for only 7% (369 pairs), whereas the first sales were transacted in the forward market and the second sales transacted in the spot market accounted for 93% (5214 pairs).

r = net compounded discount rates required in the market

τ = construction time-lag

$r\tau$ = total discount required to compensate for the additional capital financed during τ

ϕ = coefficient attached to the discount factor, $r\tau$

A_{t_2} = age of the property at the second spot sale at t_2

γ = coefficient attached to the aging factor, A

$\varepsilon_{t_1 t_2}$ = error term contained in the price difference during the period t_1 to t_2

Equation 5.6 implies that the difference between the F-S pair-sales depicts not only the change of prices reflecting in the index between the two sales, D_t, it also reflects the discount required to compensate for the expected additional capital finance risk, $r\tau$, during the construction time-lag. Based on risk-return equilibrium, the presale property price movements indicated by D_t should be able to reflect the level of risks of the respective properties borne in the forward market. If the presale properties during the forward contract period possess the same level of market risk borne by spot properties, the returns required from the repeat sales of the presale properties and that of spot properties should then be similar and, as such, their price indices should track along closely with each other. Any deviation between the two price indices, forward and spot, would suggest otherwise.

The cost of capital transferred, $r\tau$, fluctuates with the movement of interest rate in accordance with the supply and demand for funds in the market. Since no rental income will be generated during the construction time-lag to compensate for the cost of capital

borne by presale property buyers, the higher the interest rate, the higher is the capital finance risk transferred, and the higher the discount required by the buyers from the presale prices to compensate for the additional cost of capital. Furthermore, since a spot property is included to form the F-S pair-sales and aging effect, A, would thus be reflected in the equation.

A log-linear function is used as the form of the regression so that it is able to measure the percentage change of the property returns for a unit change of the time variables incorporated in the Model. The time variables include both the time dummies for measuring the price index and the aging factor for measuring the depreciation rate of the properties (Gujarati, 2003). Note that the problem of multicollinearity between the time dummies and the aging factor does not exist in this FPRS Model. The time dummies represent the change of the price index during the holding period, *i.e.* from the presale conducted at t_1 until the spot sale at t_2; whereas the aging takes place only when the property is completed (which should be some time after the presale at t_1) until the subsequent sale is conducted at t_2. Therefore, the time dummies would not track in exact synchronization with the proxy measuring the aging of the property.

Based on the FPRS Model shown in Equation 5.6, three different forms of forward property price indices are constructed using different specifications for comparison purpose:

Model 1: Index using full FPRS Model taking both the discount factor and aging factor

$$\ln \frac{P_{St_2}}{P_{Ft_1}} = \sum_{t=1}^{T} \alpha_t D_t + \eta(r\tau) + \gamma A_{t_2} + \varepsilon_{t_1 t_2} \qquad \text{E5.7 (M1)}$$

Model 2: Index taking consideration of the discount factor

$$\ln \frac{P_{St_2}}{P_{Ft_1}} = \sum_{t=1}^{T} \alpha_t D_t + \eta(r\tau) + \varepsilon_{t_1 t_2} \qquad \text{E5.8 (M2)}$$

Model 3: Index without consideration of the discount factor and aging factor

$$\ln \frac{P_{St_2}}{P_{Ft_1}} = \sum_{t=1}^{T} \alpha_t D_t + \varepsilon_{t_1 t_2} \qquad \text{E5.9 (M3)}$$

5.3.2 Data source

Quarterly property prices from 1993 to 2005 were extracted from the EPRC for constructing the different price indices, M1 to M3, based on the FPRS Model developed.

Forward Property Repeat Sales (FPRS) Price Indices (M1 to M3) – Twelve large self-contained housing estates sharing similar characteristics in terms of their housing attributes were selected for the study. In order to reflect accurately the amount of risks involved in investing in a presale property vis-a-vis a spot property, only properties which had forward-spot (F-S) pair-sales transacted during the study period were selected from these twelve estates for the validation. That is, the first sales were transacted in the form of presale offered by the developers when the properties were still under construction, and the subsequent sales were transacted in the spot market some time after the completion of the properties. There were altogether 5415 properties found to have F-S pair-sales for forming the sample set. Also, the ages of the 5415 properties contained

in the sample set were no more than 10 years so that a better control of the change of quality of the properties could be exercised; and the first 5 percent of the upper range and lower range sale transactions were excluded from the sample set to avoid any biased effect created by the outlying extreme prices.

Other indices used for comparing the FPRS Index are as follows:

All Presale Property Price Index (All PC Index) – All uncompleted properties sold in the forward market (see Table 2.1) from 1993 to 2005 were extracted from the EPRC. A purely transaction-based forward property price index (without adjustment) was constructed by taking the quarterly average prices of all these presales (see Figure 5.2).

RVD Spot Property Price Index (RVD Index) - It is the longest price index published by the Rating and Valuation Department (RVD) of the Hong Kong Government. The Index adopts a transaction-based method using the property prices of virtually all transacted spot properties in the territory. The market average prices are then adjusted by the rateable value of the subject properties in order to measure the price changes with quality of the properties being kept at a constant. Because of its wide coverage and long history, the RVD Index forms the primary source of price indices to which practitioners make reference in Hong Kong (RVD, 1995-2006) (see Figure 5.3).

RVDSP Spot Property Price Index (RVDSP Index) – It is another price index published by RVD for the Selected Popular Residential Developments (SPRD). The housing

estates included in the SPRD are all large self-contained estates which share similar characteristics in terms of periods of construction, building style, facilities and properties attributes offered and its popularity in the districts. Apart from the RVD Index, RVDRS Index is also a popular index that practitioners make reference to because of its distinctive characteristics (RVD, 1995-2006) (see Figure 5.3).

Repeat Sales Spot Property Price Index (HKURS Index) – This is a spot property price index constructed using the repeat sales method developed by Chau *et al.* (2005) based on Equation 5.3. The data were extracted from the database of the Department of Real Estate and Construction, the University of Hong Kong (HKU, 2005) (see Figure 5.3).

Regarding the discount used to compensate for the additional cost of capital during the forward contract period, since it is impossible to collect the data on the payment arrangements of all the transacted presale units, therefore, this study assumes that all presale units contained in the sample set were purchased at the recorded transaction prices with full payment settled when the purchases were made. Furthermore, it is the practice of the developers in Hong Kong that when they determine a discount for presale properties, they will consider to what extent the discount will be accepted by prospective buyers for covering the interest cost of capital invested in the uncompleted property during the construction time-lag. As such, the combined impact of the interest rate together with the construction time-lag is considered an appropriate measure to determine the discount required for setting the presale prices of the uncompleted properties. The

interest rates generally fluctuate with the best lending rates, and the best lending rates were extracted from the database of the Hong Kong Monetary Authority (HKMA)[26].

5.4 Data Analysis

Table 5.1 shows the descriptive statistics of the FPRS property sample set from 1993 to 2005. Applying the Ordinary Least Square (OLS) regression method for testing the three Models, M1, M2 and M3, the results are contained in Table 5.2 and the three forward property price indices measured from their respective time dummies, α_t, are presented in Figure 5.2.

Table 5.1 Descriptive statistics of the FPRS forward property indices 1993-2005

	Minimum	Maximum	Mean	Standard Deviation
F properties[1], P_{Ft_1}	1700	11000	4600	1362
S properties[1], P_{St_2}	1002	12762	4485	1768
Discount rate[2], r	5.00	10.50	7.60	1.70
Construction time-lag[3], τ	0.003	1.762	0.595	0.294
Total compounded discount[4], $r\tau$	0.03	16.10	5.40	2.80
Age of spot properties[5], A	0	10	2.8	2.5
No. of P-S pair-sales	5415			

[1] All sales prices, including both presales and spot-sales, under the dependant variable (HK dollar per square foot HK$/ft^2)
[2] Annual discount rates required in the market (yield per year in %)
[3] Construction time-lag during the forward contract period (in years)
[4] Total discounts required to compensate the additional cost of capital during the construction time-lag (total yield in %)
[5] Age of the properties when the spot sales were conducted (in years)

[26] The best lending rates were extracted from the website of HKMA, www.info.gov.hk/hkma/index.htm.

Table 5.2 OLS results of the FPRS forward property price indices

Variable	M1 (Full FPRS Model) (t-stat)	M2 (t-stat)	M3
Discount factor (ϕ)	1.6821 (7.44)	1.8734 (23.48)	--
Aging factor (γ)	-0.0195 (-0.90)	--	--
Adj R^2	0.88	0.88	0.87
Coefficients of time dummies (α_t) ranging from -0.5354 to 0.7561 are presented graphically in Figure 5.2			

Note: The indices M1, M2 and M3 generated from the coefficients of the time dummies are contained in Appendix V.

5.4.1 Examination of the FPRS forward property price indices

As expected, the discount factors contained in M1 and M2 from 1993 to 2005, $r\tau$, show a positive coefficient ϕ of 1.6821 and 1.8734 which indicate that a discount from the price difference was embedded between the F-S pair-sales under the study period in order to compensate for the additional cost of financing the capital during the construction time-lag; whereas in M1, the aging factor shows a negative coefficient of -0.0195 which is approximated at an instantaneous rate of 1.9% per annum[27] in depreciation of property values.

[27] The estimation of the depreciation rate is contained in Appendix VI.

Figure 5.2 Comparison of the forward property price indices

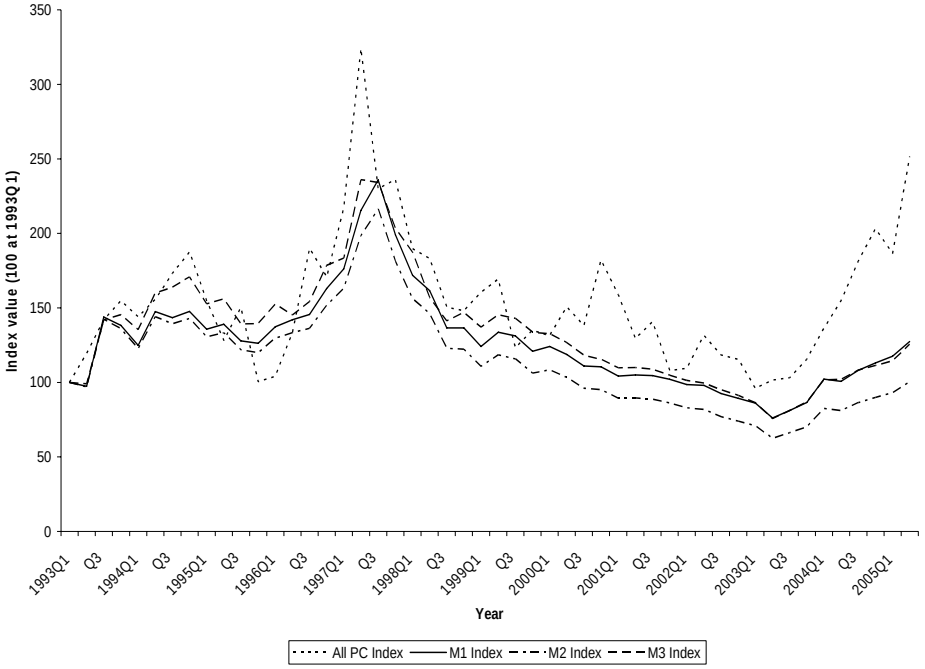


Figure 5.2 contains the following four different forward property price indices scaled to a base of 100 at the 1st quarter of 1993:

All PC Index was constructed by use of the average prices of all presale properties

M1 Index was constructed by use of PPRS taking discount factor and aging effect

M2 Index was constructed by use of PPRS taking discount factor only

M3 Index was constructed by use of PPRS without taking discount factor or aging effect

The Figure shows that all the different forward property price indices from 1993 to 2005 were trending in a similar pattern in general during the study period. However, the All PC Index constructed by the use of purely transaction-based presale properties fluctuated more vigorously than that of the FPRS Indices (M1, M2 and M3 Indices). The reason for this was that uncompleted property presales were, very often, concentrated on a few

housing estates in a particular sub-period and thus the prices were more likely to be biased towards a particular type of property. The problem is similar to that of the FCRS Index shown in Figure 5.1. Although the FCRS Index was constructed using the repeat sales method, the data collected in each monthly period were limited to purely uncompleted properties of the F-F pair-sales. This rendered the problem that the presale prices available in each monthly period were likely to be biased on certain types of properties.

The other three indices, M1, M2 and M3 using different specifications, were tracking along closely with each other during the study period. Among them, the M3 Index lay well above the M1 and M2 Indices during most of the study period because it took no consideration of the discount factor in the index construction, whereas the discount factor was embedded in the construction of M1and M2 for compensating the additional cost of capital during the construction time-lag. The three Indices were constructed based on the price differences of the F-S pair-sales of the same properties and were scaled at the same base of 100 at the 1st quarter of 1993. If the price differences for constructing the M3 Index were not adjusted by the different discounts imposed during the study period, the Index constructed using the unadjusted price differences would be distorted in reflecting the general price change of the forward property market. This was because the level of the unadjusted price change reflected in the Index in some sub-periods would be higher than the return required for covering the market risks borne if the discounts of those sub-periods were higher than that of the origin. The deviation implied that the larger the discount required during the time-period, the larger the gap between M3 and M1/M2

because of the higher additional cost incurred. The discount factor, $r\tau$, during the study period averaged at 5.4% (see Table 5.1).

The M2 Index, which took the discount factor into consideration but not the aging factor, tracked along very closely with the M1 Index in the early years but then consistently fell behind in later years during the study period. Since the aging effect of the presale properties did not take place when the presales were transacted in early years, but when depreciation of the properties took place in later years, a lower value was reflected in the price index of M2. Therefore, it was not surprising that the M2 Index displayed a downward movement compared to the M1 Index in which the aging factor was considered in keeping the quality of the properties constant. The M1 FPRS Index, which took both the discount factor and aging factor into account, could reflect more accurately the general price trend of the forward property market during the study period.

The Koenker-Bassett (KB) test was also used to investigate whether the disturbance variance of M1, u^2, is constant across the observations of the explanatory variables. The test was conducted by looking into the heteroscedasticity displayed between the square-residuals and the square-estimated dependent variable of the regression model, i.e.

$$u_i^2 = \alpha_1 + \alpha_2(\hat{Y}_i)^2 + v_i \qquad \text{E5.10}$$

where $\hat{Y}_i$ were the estimated values from the Model. The null hypothesis was that $\alpha_2 = 0$.

Table 5.3 Koenker-Bassett (KB) test on heteroscedasticity of the FPRS Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.0222	0.0012	18.2034	0
$(\hat{Y}_i)$	0.0018	0.0050	0.3539	0.7235

Based on the results shown in Table 5.3, the correlation coefficient attached to the square-estimated variable, α_2 = 0.0018, is not statistically significant. This suggests that the null hypothesis cannot be rejected and, therefore, no heteroscedasticity is present in the Model.

Figure 5.3 Comparison of the FPRS Index and the sub-period indices

Figure 5.3a FPRS sub-period index (1993-95)

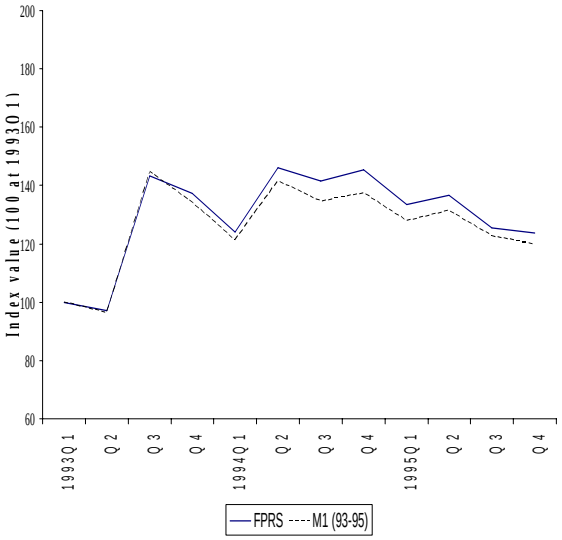
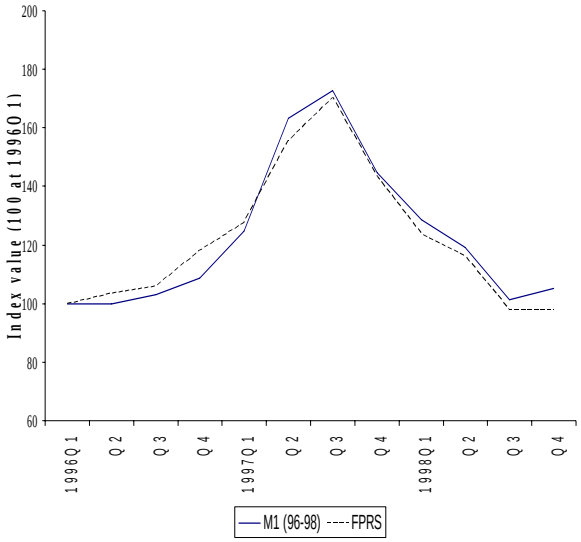


Figure 5.3b FPRS sub-period index (1996-98)



The validity of the FPRS Model under different market dynamics was also tested. To do this, the forward pair-sales contained in the data set were broken up into two sub-periods, *i.e.* with the presales transacted between 1993 and 1995 and between 1996 and 1998 in

which up-and-down market cycle was found in each sub-period. Two sub-indices were constructed using the forward pair-sales of the two sub-periods and comparison of the two sub-indices with the FPRS Index was made. As shown in Figures 6.4a and 6.4b, the two sub-indices tracked closely to the FPRS Index which once again shows the consistency of the FPRS Model.

5.4.2 Comparison of the FPRS (M1) Index with spot property price indices

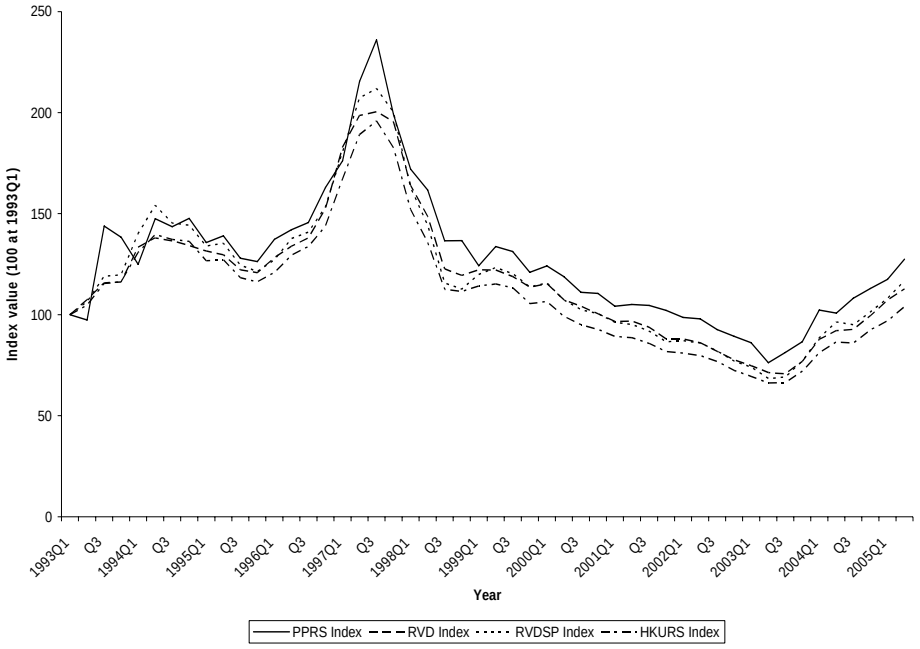
This section examines whether the forward property market worked as efficiently as the spot property market in reflecting the market sentiment during the study period from 1993 to 2005 by comparing the various price indices of the two markets. Figure 5.3 compares the FPRS (M1) with the following different spot property price indices commonly used in Hong Kong. They are:

RVD All Classes Index built by using all spot properties adjusted by the rateable values

RVDSP Index covering the Selected Popular Residential Developments in Hong Kong

HKURS Index built based on Equation 5.3 using all pair-sales of spot properties

Figure 5.4 Comparison of FPRS (M1) Index with the spot property price indices



The Figure shows that the FPRS Index trended along closely with the other spot property indices during the study period, in particular, with the RVDSP Index as the properties contained in both data sets shared similar characteristics - they were all popular self-contained housing estates with similar facilities and housing attributes.

Table 5.4 Correlation matrix of the performance of the four indices

Return	*FPRS*	*RVD*	*RVDSP*	*HKURS*
FPRS	1.0000	0.9796	0.9637	0.9803
RVD	0.9796	1.0000	0.9920	0.9967
RVDSP	0.9637	0.9920	1.0000	0.9960
HKURS	0.9803	0.9967	0.9960	1.0000
Risk	*FPRS*	*RVD*	*RVDSP*	*HKURS*
FPRS	1.0000	0.5788	0.7735	0.7914
RVD	0.5788	1.0000	0.9549	0.9489
RVDSP	0.7735	0.9549	1.0000	0.9872
HKURS	0.7914	0.9489	0.9872	1.0000

Table 5.4 shows the correlation matrix of the annualized returns and risk of the four indices. Once again, the FPRS Index trended along closely with the other spot property indices at correlations ranging from around 0.96 to 0.98. These findings agree with the proposition of Chau *et al.* (2003) that presale properties are priced as efficiently as the spot properties in reflecting the market sentiment and hence the market risks. Meanwhile, it is interesting to note that the HKURS Index shown in Figure 5.4, similar to the M2 Index shown in Figure 5.2, fell behind the FPRS Index and other indices at times because the former Index did not take the aging factor into consideration for the construction of the Index.

Despite the trend of the FPRS Index reconciled in general with the spot price indices, the FPRS Index drifted slightly above the spot indices in some years. The price movements of the spot indices fell a little behind those of the FPRS Index, in particular, in the years 1993 and 1997, at an average rate of around 6% to as high as 9% in 1997 (see Figure 5.3).

Table 5.5 Comparison of the annualised returns and risks of the four indices

Table 5.4a: Annualised return (%)

Year	*FPRS*	*RVD*	*RVDSP*	*HKURS*
1994	17	16	20	17
1995	-14	-10	-16	-15
1996	29	26	26	24
1997	34	28	31	27
1998	-31	-39	-44	-39
1999	-11	-5	1	-5
2000	-9	-12	-12	-12
2001	-8	-12	-14	-12
2002	-13	-12	-11	-11
2003	-3	-1	0	-1
2004	33	30	32	28
2005	8	8	11	8

Table 5.4b: Annualised risk (%)

Year	*FPRS*	*RVD*	*RVDSP*	*HKURS*
1994	11	2	6	4
1995	6	5	7	6
1996	11	10	11	10
1997	25	8	14	12
1998	18	21	24	20
1999	6	4	4	4
2000	7	6	7	6
2001	1	4	4	3
2002	4	5	5	4
2003	5	3	4	3
2004	6	5	5	5
2005	7	3	4	5

Table 5.4a and 5.4b show the annualised returns and risk of the four indices. As shown in Table 5.4a, the annualised return of the FPRS Index in 1997 was much higher than that of the other three spot indices, i.e. 34% of FPRS compared to 28% of RVD, 31% of RVDSP and 27% of HKURS. Correspondingly, the risk in the forward property market reflected by the FPRS Index during 1997 was also higher at 25% compared to 8% of RVD, 14% of RVDSP and 12% of HKURS (see Table 5.4b). These findings are in line with the proposition that buyers may have paid a premium on buying presale properties to hedge against any anticipated price appreciation in times when the market is in a boom or shows signs of revitalizing. This also agrees with the observation from the study of Wong *et al.* (2006) that "the volatility of the forward market was more sensitive to shocks than the spot market" in the years 1996 and 1997.

5.5 Summary

By focusing on the forward property market in Hong Kong, an improved FPRS Model using forward-spot pair-sales, which is able to reflect the additional presale risks embedded, has been developed for the construction of the forward property price index. The results show that a discount factor for compensating the additional cost of capital during the construction time-lag was embedded in the formation of the presale property prices during the study period. If the discount factor had not been considered, then the price changes reflected in the forward index to indicate the general price change of the presale properties during the study period would be distorted.

Comparison of the FPRS Index with the spot property price indices during the study period shows that the pricing of presale properties in the forward market reconciled that of the spot properties in general in reflecting the overall market risks. Yet, the spot price indices were found to be falling slightly behind the FPRS Index in some years when the market was in a boom or showed signs of revitalizing, at an average rate of 6% to as high as 9%. This agrees with the proposition that buyers may have paid a higher price on presale properties compared to the spot properties when the market is in a boom in order to hedge against any anticipated price appreciation in the near future.

The proposed FPRS Model using the repeat sales method for constructing the forward property price index was found to be more efficient than the other models in reflecting the general price change of the forward property market. On one hand, it can keep the quality of the properties measured constant by using the repeat sales method and, on the other hand, it mitigates the weakness of the previous FCRS Model that a limited number of presales could cause a serious data bias as a result of likely clustering of certain types of properties in a particular sub-period. Also, by using forward-spot pair-sales, the FPRS Model can reflect more accurately the amount of risk involved in investing in a presale property vis-a-vis a spot property.

However, if the presale properties under the study with the presence of hidden presale risks, had constantly been priced higher than their expected prices as if they were to be sold in the spot market, then the constant-higher price imposed on presale properties compared to spot properties resulting from the wealth transfer (see Figure 3.6) certainly

could not be reflected in the comparison between the FPRS Index and the spot indices shown in Figure 5.3. This was because all the four indices, including presales and spot sales, were scaled at the same base of 100 at the 1st quarter of 1993 for comparison purpose. To study whether a wealth transfer had been imposed in the pricing mechanism of presale properties in which the hidden presale risks were present compared to the pricing of spot properties in which no hidden presale risks were found, a separate study was conducted and is described in the next chapter.

CHAPTER 6 PRICING OF PRESALE PROPERTIES WITH ASYMMETRIC INFORMATION

This Chapter sets up a Forward-Spot Index Tracking (FSIT) Model for pricing presale properties. The FSIT Model can capture not only the additional risks arising from market uncertainty during the construction time-lag and the capital finance risk due to the interest rate fluctuation, but also the group of hidden presale risks arising from asymmetric information inherent in the forward property market.

6.1 Introduction

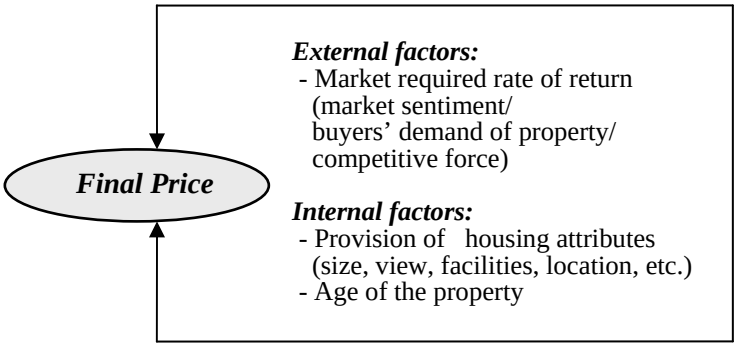
There is only a very small amount of research studies on the pricing behavior of presale properties. Chau *et al*. (2003) set up a Forward Contracts Repeat-Sales (FCRS) Model for construction of a forward property contract price index, which has been discussed in Chapter 5. However, there seem to have been few studies conducted to investigate the pricing mechanism of presale properties with reference to the asymmetric information inherent in the market. In this regard, the development of a Forward-Spot Index Tracking (FSIT) Model is described in this chapter. This Model is able to capture the wealth transfer from buyers to developers on the pricing of presale properties in which the group of hidden presale risks is present compared to the spot properties in which the hidden presale risks are not found.

6.2 Pricing Framework of Presale Properties

According to the "return equivalence theorem" of Hendershott (1996), the expected risk-adjusted returns are equal across different investments which have the same risk level.

Therefore, if presale properties possess the same amount of risks as those sold in the spot market, their returns should, in principle, be the same. However, if there is asymmetric information in the forward property market, developers who have access to the hidden information will enjoy a comparative advantage in the pricing of presale properties. To start the investigation, the central feature of the pricing mechanism of a property must be explored. According to the conceptual framework developed by Monroe (2003), the equilibrium prices of spot properties is a function of a list of internal and external factors as shown in Figure 6.1.

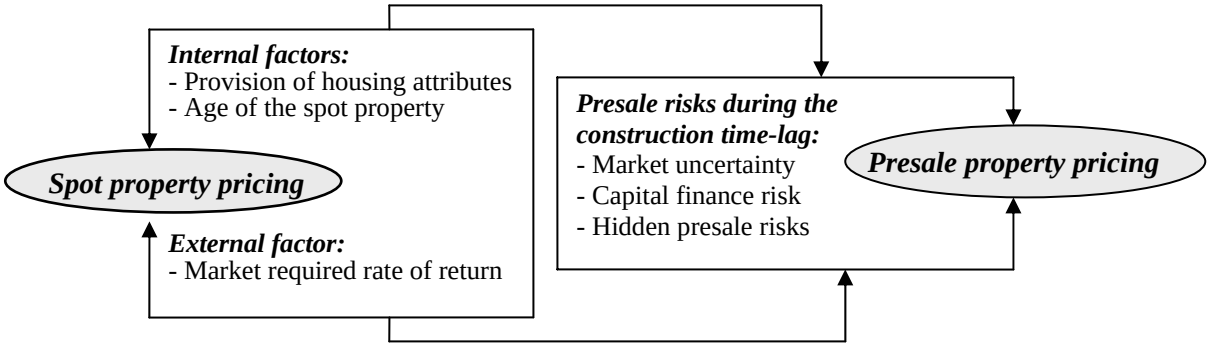
Figure 6.1 Conceptual framework for pricing spot properties



The internal factors include the costs of producing the housing attributes, the age of the property and the market return required from the investment, and the external factors such as the demand for housing, the economic sentiment and the choice of product attributes made available by competitors. In determining a final price, the competitive force will drive the internal and external forces to meet at a point at which an equilibrium price is arrived at. Prices are, therefore, responsive to the relationship between aggregate demand and supply for properties based on the information possessed by the market players.

Regarding presale properties, the pricing takes into consideration not only the internal and the external factors, the same as for spot properties, but also the additional risks which are specific to the forward market as shown on the right-hand side of Figure 6.2. These risks include the expected presale risks arising from market uncertainty during the construction time-lag, the risk from interest rate fluctuations on the additional capital financed within the forward contract period, and also the hidden presale risks arising from asymmetric information inherent in the market.

Figure 6.2 Conceptual framework for pricing spot and presale properties



It is suggested in property markets that presale property buyers are paying a higher price in buying presale property due to the hidden presale risks compared to buying spot property. Developers might have charged a higher price on the housing attributes over the expected market price by the time they offered the presales taking advantage of the asymmetric information (SCMP, 2005; Lai, 2006). On the other side, buyers might have to accept the higher price imposed on presales by developers in order to get the developments with the housing attributes that they desired, which resulted in a wealth transfer (Weimer and Vining, 2005; Yang, 2001). The following sections set up the FSIT

Model which is capable of capturing the group of hidden presale risks in the pricing of presale properties, compared to the pricing of these properties in the spot market in which no hidden presale risks are present.

6.3 Literature Review

Among the limited research studying property as a forward commodity, Shiller (1993) proposed the use of a hedonic repeated sales method to estimate asset values traded in derivative markets. Lai *et al.* (2004) modeled a property presale decision in a real-option framework and suggested that developers achieve risk-sharing purpose by selling their projects before their completion dates[28]. Chang and Ward (1993) priced presale properties in Taiwan as a forward asset with carrying charge. However, a strong conclusion could not be drawn from the study due to the lack of comprehensive data in the forward market. Case *et al.* (1993) attempted to price real estate futures based on the indices which were correlated closely with the types of real estate that were specific to the needs of investors, for example, the index on commercial properties and the index which was specific to a certain region. However, these index-based futures were constructed using data collected from the second-hand market which contained little information specific to presale of uncompleted properties.

Chau *et al.* (2003) set up a price discovery function by the use of the Forward Contract

[28] In a purchase of an uncompleted property in Hong Kong, once the ASP is signed, both parties (seller and buyer) must fulfill their obligations stipulated in the contract. As such, this study takes the view that a presale contract used for transacting an uncompleted property is similar to a forward and futures contract, which is different from the option framework proposed by Lai *et al.* (2004). There were incidents in which the developers brought the cases to the court when some buyers backed-out from their purchases after the forward ASPs had been signed, and successfully claimed the compensation from the presale property buyers (Orential Daily, 2002; The Sun, 2001).

Repeat Sales (FCRS) method for constructing a forward property price index in Hong Kong, which has been discussed in Chapter 5. However, the price variations shown in the Index cannot reflect the market information accurately due to the selection bias caused by the limited data available. Baroni *et al.* (2005) have stated that caution must be taken in selecting the repeat sales data since "the index may be biased towards those properties that are re-sold during a specific time period." Furthermore, the FCRS price index gives only the growth rates arising from the time values offered in the market between the repeat sales (Wang & Zorn, 1997), but it has not accounted for the hidden presale risks contained in the forward property market.

Centaline Property Agency, one of the leading property agencies in Hong Kong, set up the Centa-City Leading (CCL) Index. The CCL Index aims to provide a most up-to-date trend for gauging the price-setting in the first-hand property market, in which presales are active. The CCL Index is a weekly index based on the preliminary contract prices of spot properties conducted through Centaline to monitor the up-to-date property price variations in reflecting the more recent market sentiment. Although the market generally considers that prices of first-hand properties lead the pricing of spot properties sold in the second-hand market, due to the bias caused on the property prices because of the limited coverage of sales in terms of location and types of properties conducted in the first-hand market within a particular time-period, practitioners still have to rely on the price trend of spot properties, like the CCL Index, as a reference for the price-setting of new developments by the use of the comparison method (Apple Daily, 2007[c]; HKSAR, 2005[c]).

This practice is in line with the findings of Yiu *et al.* (2006) which suggest that "during periods of low-volume ratios (*i.e.* the forward market is relatively less active than the spot market), the spot return Granger causes the returns of forward contracts; and during periods of higher-volume ratios, there are feedback relationships between the two markets." However, the preliminary ASPs contained in the CCL Index are usually not registered in the Land Registry and are thus not available publicly for further validation of the models developed in the industry. Furthermore, similar to the index-based futures proposed by Case *et al.* (1993), the CCL Index is also an index constructed using data collected from the second-hand market which carries little information specific to property presales. Nevertheless, it gives important insights into the pricing of presale properties by referencing to the performance of the sales of spot properties through the use of the comparison method.

The market comparison method to property appraisal is used to predict the market value of a particular real estate asset through the analysis of recent sales of similar properties. In a competitive market, economic assets which provide equivalent services or prospects for future benefits must have the same market prices regardless of whether they are sold in the spot or forward market (Isaac, 2000). This principle also applies to property markets and serves as the foundation for the market comparison method. At any point in time, properties with similar characteristics must have similar market values and the value of a property, upon adjustment on the quality, must be equal to the price of recently sold, similar properties. The advantages of the market comparison method are that not only it is easy and quick to use, but it is also the backbone incorporated in other appraisal

methods (Baum, 1991). To apply the comparison method for pricing presale properties, the Single Index Model developed by Sharpe (1985) could help which will be discussed in the following section.

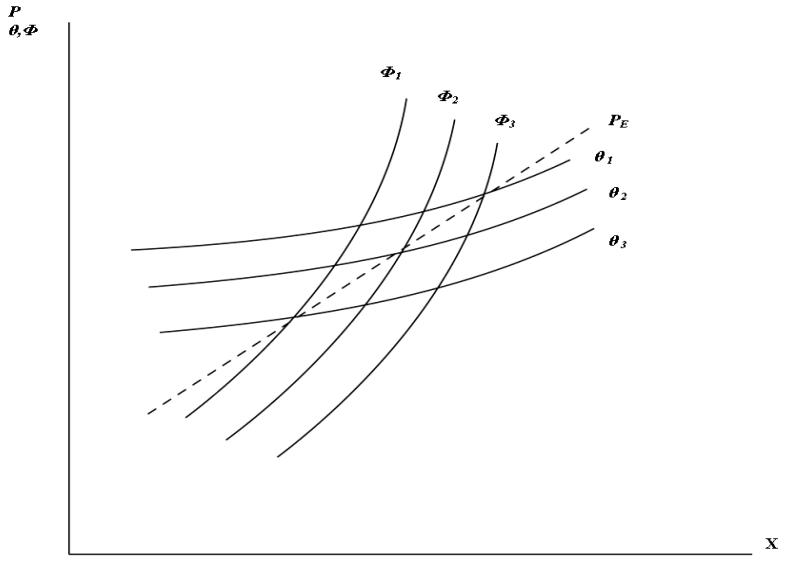
6.4 Research Methodology

Following the framework outlined in Figure 6.2, a model was developed by incorporating the Hedonic Pricing Model (HPM) (Rosen, 1974) and the Repeat Sales Price Model (RSPM) (Shiller, 1993) into the index-tracking method used in the Single Index Model (SIM) (Sharpe, 1985) for pricing presale properties.

Rosen (1974) formulated the HPM to show the construction of the set of implicit prices of differentiated goods with reference to both the consumers' and producers' choice within the economics of market equilibrium, which provides valuable insights for pricing of presale properties. Based on the HPM, each property can be described by a package of attributes, $x = (x_1, x_2, ...x_n)$, such as location, size and facilities. Each property has a quoted market price which reflects the implicit value embedded in that property, $P_i(x) = P_i(x_1, x_2, ...x_n)$. At equilibrium prices, $P_i(x) = P(x_1, x_2, ..., x_n)$ guides both buyers' and sellers' choices regarding the packages of attributes of the properties bought and sold. The components of the packages of attributes are objectively measured in the sense that all buyers' perceptions of the amount of characteristics or attributes embodied in each package of properties are identical.

As such, in a perfectly competitive market where there is no restriction on freedom of entry into the industry, the equilibrium price function P is determined by the market clearing conditions where the offer function, ϕ, of sellers must equal to the bid function, θ, of buyers as shown in Figure 6.3. Both buyers and sellers base their demand decisions with regard to their risk-return requirements in determining the equilibrium prices at which buyers and sellers are perfectly matched. No individual can improve his position and all optimum choices are feasible.

Figure 6.3 Hedonic equilibrium prices between property sellers and buyers



The Repeat Sales Pricing Model (RSPM) developed by Shiller (1993) is built along the theoretical framework of the HPM that the property which the buyer and seller is transacting possesses a package of a number of attributes that remain unchanged between times. Under this assumption, all properties therefore have the same price path through time, and changes in the price index occur only in response to changes of time value

factors. As such, the property attributes in the price analysis can then be controlled and the time value of the property can be worked out by utilizing the repeat-transacted prices of the same property in different time periods. This method has the advantage of avoiding the functional form required in the HPM of measuring the unique characteristics of properties. Encompassing the theoretical frameworks of the HPM and the RSPM, property market can be viewed as a marketplace for selling the joint attributes of properties. The spot price of a property upon completion, P_S, therefore, can be determined by their implicit value come up from the fundamental values of the vector of attributes, $P(x) = P(x_1, x_2, ...x_n)$.

To control the implicit value of a property so as to determine the time value using the repeat-transacted prices of the same property, the comparison method that embedded in the Single Index Model developed by Sharpe (1985) could help. Building on the work of Markowitz on Portfolio Theory, Sharpe (1985) developed a model for stock portfolios that related security returns to the performance of some index of business activity which is known as the Single Index or, more generally, the Market Model. Sharpe advocated that the return on any security could be determined solely by random factors and the relationship with some common index. Given this assumption, the return on security in a period relative to an index of market movements, an "index-tracking strategy", is incorporated into the Single Index Model (Brown and Matysiak, 2000; Byrne and Lee, 2000). This Model has been widely adapted by researchers and industry practitioners of which the very popular Capital Asset Pricing Model (CAPM) is based on (Brown and Matysiak, 2000).

Since the forward property market is considered as part of the conventional property market selling commodities in the same nature, the pricing of presale properties in the forward market should therefore track along the price index of the spot market. Following this proposition, the concept of the spot property market index produces a definition of equilibrium prices for use in the pricing of presale properties. This is supported by the study of Yiu and Hui (2004) which showed that the spot property prices led the pre-sale prices during a period of very few transactions in the forward market. Also, feedback relationships between the two markets were found when the forward to spot transaction volume ratio is higher. The findings also imply that the spot property market has been performing a benchmarking function for the pricing of forward properties. This is also in line with the practice of industry professionals that they will make reference to the prices of spot market in pricing their new developments by use of the comparison method.

The following sections show how the FSIT Model is developed by incorporating the HPM, RSPM and SIM which is capable of capturing the group of hidden presale risks into the pricing of presale properties compared to the pricing of these properties in the spot market in which no hidden presale risks are present.

6.4.1 Hedonic Pricing Model and Repeat Sales Pricing Model

As discussed in previous sections, the RSPM developed by Shiller (1993) is built along the theoretical framework of HPM. It states that the quality of a spot property possesses

a package of attributes, x, which remain unchanged between times. Under this assumption, all properties have the same price path through time, $p(x)$; and a change in the price level, M_t, of a property occurs only in response to the change in price of the same property sold to indicate the return required between the two sales period. It should be noted that the assumption of no quality change of the property between sales holds only if the aging effect has been considered. As such, the price change between the two sales of the same spot property under the RSPM can be written as,

$$P_{St_2} - P_{St_1} = P\{[p(x)_{t_2} - p(x)_{t_1}],[M_{t_2} - M_{t_1}],[A_{t_2} - A_{t_1}]\} \qquad \text{F6.1}$$

where

P_{St_1} = price of the first sale of the spot property at t_1

P_{St_2} = price of the subsequent sale of the same spot property at t_2

$p(x)_t$ = implicit price of the attributes (x) remains unchanged through time, t_1 to t_2

M_t = price level of the attributes based on the market information at time t

A_t = age of the property at time t

Rearranging Function 6.1

$$P_{St_2} - P_{St_1} = P(m_{t_1 \to t_2}, a_{t_1 \to t_2}) \qquad \text{F6.2}$$

where

$m_{t_1 \to t_2}$ = market return of the property during the holding period from t_1 to t_2

$a_{t_1 \to t_2}$ = aging effect incurred on the property during the holding period from t_1 to t_2

The RSPM method has the advantage of avoiding the functional form required in HPM for measuring the unique characteristics of the properties $p(x)$ as they have been cancelled out in the repeat sales contained in Function 6.1. If the same properties have their first sales take place in the forward market in the form of presales with the assumption of the presale risks, $P_{Ft_{-1}}$; whereas the subsequent sales are transacted in the spot market, P_{St_1}; then Function 6.2 should be revised as

$$P_{St_1} - P_{Ft_{-1}} = P(m_{t_0 \to t_1}, a_{t_0 \to t_1}) + P(m_{t_{-1} \to t_0}, r\tau_{t_{-1} \to t_0}, h_{t_{-1} \to t_0}) \qquad \text{F6.3}$$

where

t_0 = time upon the completion of the property, *i.e.* at age zero

t_{-1} = time when the presale is transacted while the property is still under construction

t_1 = time when the subsequent sale is conducted in the spot market

$P_{Ft_{-1}}$ = price of the property sold in the forward market in form of presale at t_{-1}

P_{St_1} = price of the same property sold in the spot market at t_1

$P_{St_1} - P_{Ft_{-1}}$ = price change between the forward-spot pair sales at t_{-1} and t_1

$m_{t_0 \to t_1}$ = market return generated during the holding period from t_0 to t_1

$a_{t_0 \to t_1}$ = aging effect from completion of the property to the sale in spot market at t_1

$m_{t_{-1} \to t_0}$ = market return generated during the construction time-lag, t_{-1} to t_0

$r\tau_{t_{-1} \to t_0}$ = discount to compensate the additional cost of capital from t_{-1} to t_0

$h_{t_{-1} \to t_0}$ = hidden presale risks borne by the buyers during construction time-lag, t_{-1} to t_0

Rearranging Function 6.3, the price change between the forward-spot pair sales is written as

$$P_{St_1} - P_{Ft_{-1}} = P(m_{t_{-1}\to t_1}, a_{t_0\to t_1}, r\tau_{t_{-1}\to t_0}, h_{t_{-1}\to t_0}) \qquad \text{F6.4}$$

where

$m_{t_{-1}\to t_1}$ = market return generated during the holding period, t_{-1} to t_1

$a_{t_0\to t_1}$ = aging effect from completion of the property to the sale in spot market at t_1

$r\tau_{t_{-1}\to t_0}$ = discount to compensate the additional cost of capital from t_{-1} to t_0

$h_{t_{-1}\to t_0}$ = hidden presale risks borne by the buyers during construction time-lag, t_{-1} to t_0

6.4.2 Forward-Spot Index Tracking Model

To build a testable Forward-Spot Index Tracking (FSIT) Model for pricing presale properties which can capture the presale risks contained in Figure 6.2, namely the return generated to cover the market risk during the construction time-lag, m; the discount to compensate for the additional cost of capital financed within the forward contract period, $r\tau$; and the possible wealth transfer imposed by developers on the presales due to the bundle of hidden presale risks arising from asymmetric information inherent in the forward property market, h; Function 6.4 is then written as

$$\ln P_{St_1} - \ln P_{Ft_{-1}} = \beta_1 + \beta_{2(F,S)} m_{t_{-1}\to t_1} + \beta_3 r\tau_{t_{-1}\to t_0} + \beta_4 a_{t_0\to t_1} + \beta_5 h_{t_{-1}\to t_0} + \varepsilon \qquad \text{E6.1}$$

$$\ln(P_{St_1} / P_{Ft_{-1}}) = \beta_1 + \beta_{2(F,S)} m_{t_{-1}\to t_1} + \beta_3 r\tau_{t_{-1}\to t_0} + \beta_4 a_{t_0\to t_1} + \beta_5 h_{t_{-1}\to t_0} + \varepsilon \qquad \text{E6.2}$$

where

$\ln(P_{St_1} / P_{Ft_{-1}})$ = logarithm of the relative price changes of the forward-spot pair sales

β_1 = intercept coefficient (constant)

$m_{t_{-1}\to t_1}$ = market return generated from the benchmark (spot) property index prevailed in the property market during the holding period of the presale property

$\beta_{2(F,S)}$ = coefficient measuring the relationship between the rates of returns generated from the presales and those generated from the benchmark properties

$r\tau_{t_{-1}\to t_0}$ = discount required to compensate the additional cost of capital from t_{-1} to t_0

β_3 = coefficient attached to the discount factor

$a_{t_0\to t_1}$ = aging effect from completion of the property to the sale in spot market at t_1

β_4 = coefficient attached to aging depreciation

$h_{t_{-1}\to t_0}$ = hidden presale risks borne by the buyers during construction time-lag, t_{-1} to t_0

β_5 = coefficient attached to the hidden presale risks

ε = error term

Index tracking on the price changes of presale properties **-** The FSIT Model expressed in Equation 6.2 is in line with the comparison method used in the industry for property appraisal. The beta value, β_2, measures the elasticity of the two streams of return rates. The implications carried in β_2 are that:

(i) if β is higher than 1, the forward market is more volatile than the spot market;

(ii) if β is lower than 1, the forward market is less volatile than the spot market;

(iii) if $\beta \approx 1$, the relative forward-spot price changes track along the rates of return of the spot properties in exact synchronization.

Discounts required to compensate the additional cost of capital - The discount required by the buyer is regarded as the compensation for the missing rent to compensate the additional cost of capital for holding the uncompleted property during the construction time-lag. The coefficient β_3 is expected to be positive, i.e. the higher the interest rate and the longer the construction time-lag, the more is the discount required in the presales and thus the larger the relative price changes between the pair-sales (Chau *et al.*, 2003).

Depreciation due to aging of the properties - In reality, there are not many properties with repeat sales which have the first sale transacted in the forward market at t_{-1}, and then the subsequent sale transacted again when it is just completed at t_0 , *i.e.* at age-zero. If the subsequent sale is conducted some time after the completion at t_1, then adjustment has to be made into the Model to control the aging impact of the spot properties transacted in the subsequent sales in order to keep the price level free from the change in quality over time. A negative sign on β_4 is expected to show the depreciation taking place on the value of the property during the holding period.

Risk premium arising from the group of hidden presale risks and the three repeat sales method – It is assumed that the hidden presale risks representing a group of uncertainties arising from the asymmetric information create an opportunity for developers to charge a higher price on presale properties. Since there is hardly any proxy available in the market for identifying this group of risks in one measure, a dummy variable, h , is built into the Model to investigate whether there is any impact from the group of hidden presale risks imposed on the pricing of the presale properties.

The dummy variable, h, therefore, is used to classify the category of the forward-spot pair-sales from the spot-spot pair sales of the same set of properties contained in the sample set for comparison purpose. However, only forward-spot pair-sales are contained in Equation 6.2 without the inclusion of spot-spot pair-sales. To tackle this problem, spot-spot pair-sales of the properties must be included in the Model for the analysis. As such, three repeat sales of the same property with the first sale ($P_{Ft_{-1}}$) transacted in the forward market and the subsequent two sales (P_{St_1} for the second sale and P_{St_2} for the third sale) transacted in the spot market are required in order to make two-pairs-sales for the same property, i.e. a forward-spot pair, $\ln(P_{St_1} / P_{Ft_{-1}})$, and a spot-spot pair, $\ln(P_{St_2} / P_{St_1})$, for the same property. Equation 6.2 is then revised as

$$\ln(P_2 / P_1) = \beta_1 + \beta_2 m + \beta_3 r\tau + \beta_4 a + \beta_5 h + \varepsilon \qquad \text{E6.3}$$

where

$\ln(P_2 / P_1)$ = logarithm of the relative price changes of the two sets of repeat sales data from the same properties. $\ln(P_{St_1} / P_{Ft_{-1}})$ if they are forward-spot pairs, and $\ln(P_{St_2} / P_{St_1})$ if they are spot-spot pairs

m = market return generated from the benchmark spot index; the period is from t_{-1} to t_1 if the dependant variable is a forward-spot pair, and from t_1 to t_2 if the dependant variable is a spot-spot pair

$r\tau$ = discount to compensate the additional cost of capital from t_{-1} to t_0 for forward-spot pairs and zero otherwise

a = aging effect on forward-spot pairs from t_0 to t_1, and spot-spot pairs from t_1 to t_2

$h =$ unity is assigned if they are forward-spot pairs and zero otherwise

For the dummy variable, h, if the coefficient β_5 significantly lowers the intercept (in negative sign), the differential intercept suggests that a wealth transfer relative to the price changes has been embedded in pricing the presale properties. The larger the negative differential intercept, the higher the presale properties were priced at t_{-1} compared to their equilibrium spot prices at t_1.

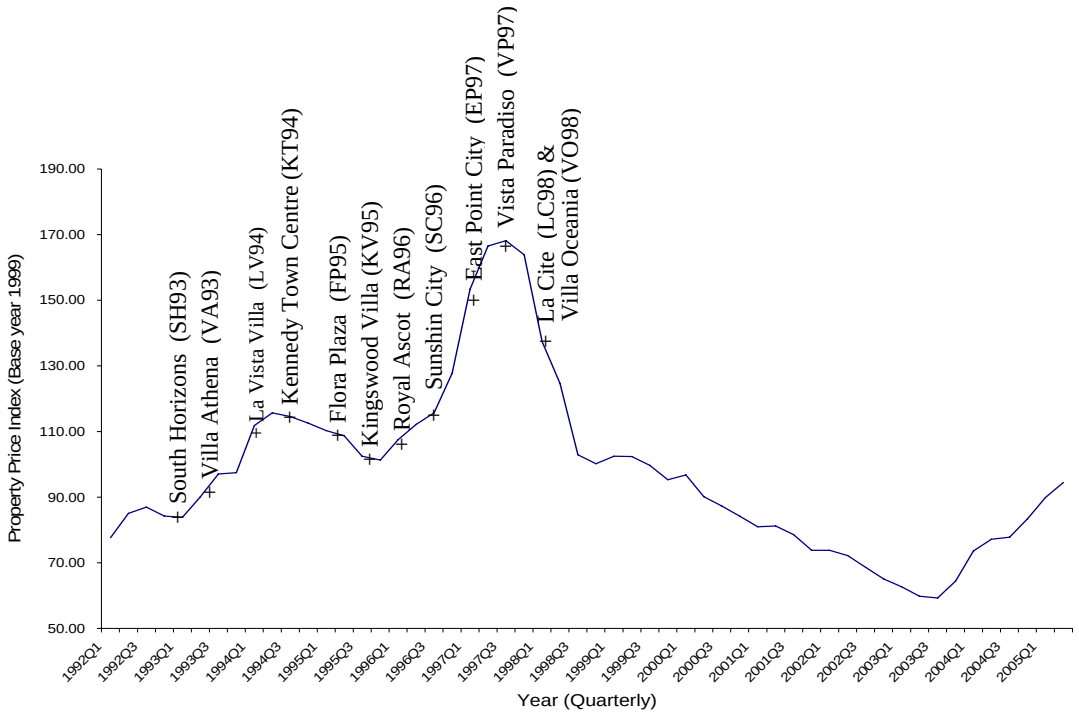
6.4.3 Data source

Quarterly data from years 1993 to 2005 were extracted from various sources for the validation.

The housing estates chosen – A total of 2748 pair-sales, including both the forward-spot pairs and spot-spot pairs, were extracted from the twelve large housing estates located in different districts of Hong Kong with years of presales given in Figure 6.4. The units contained in the sample set were all drawn from high-rise buildings in the form of self-contained housing estates in which their structural characteristics, neighborhoods and amenities were very similar (Tse and Love, 2000). As required by the FSIT Model, only properties with three repeat sales were selected so that a forward-spot pair and a spot-spot pair could be formed for the same individual property. The property sales contained in the period from the years 1993 to 2005 were extracted from the Economic and Property Research Centre (EPRC) and were spread evenly over the study period so that both boom and bust periods were covered in the tests. In order to narrow the impact arising from

aging, the ages of the properties selected for the study were no more than ten years old when the sales were conducted.

Figure 6.4 The twelve housing estates selected for validating the FSIT Model



Benchmark spot property price index - Different price indices on spot properties are published by the Rating and Valuation Department of the Hong Kong Government (RVD, 1995-2006) to measure the property price movements. Among the indices, the one for the Selected Popular Residential Developments (SPRD) is considered the most appropriate for use in this study. The housing estates included in the SPRD are all large self-contained estates which share similar characteristics with the twelve housing estates chosen for the study in terms of period of construction, building style, facilities and properties attributes. Also, the data are available on a quarterly basis, which provides more up-to-date information in reflecting the recent market sentiment and has been the

primary source to which practitioners make reference. The SPRD price index is, therefore, used as the benchmark proxy for measuring returns generated from the spot property market.

Discount to compensate for the additional cost of capital - In Hong Kong, most property sales are financed through the arrangement of mortgages and the mortgage costs are sensitive to interest rate fluctuation. Therefore, the mortgage interest rate can be considered as the discount rate required by buyers to compensate the additional cost of capital incurred during the construction time-lag. The mortgage interest rate generally fluctuates with the best lending rate, which can be extracted from the database of the Hong Kong Monetary Authority (HKMA).

Summary statistics of the sample set - Table 6.1 contains the summary statistics of the sample set generated from the twelve housing estates.

Table 6.1 Summary statistics of the sample set of the twelve housing estates

Variables	Min	Max	Mean	Std. deviation
Sales price[1]	717	13471	4667	1844
Relative price changes[2]	0.1774	3.5714	1.0076	0.4465
Spot market returns[3]	-122	95	-10	47
Age[4]	0	10	3.6	2.8
Annual discount rate[5]	5	11	9	1
Construction time-lag[6]	0	1.4	0.3	0.37
Total compounded discounts required[7]	0	12.4	2.7	3.3
No. of pair sales *(N)*	2748			

[1]All sales prices, including both presales and spot-sales, under the dependant variable (HK dollar per square foot HK$/ft^2)

[2] Relative price changes of the pair-sales under the dependant variable (P_2 / P_1)

[3] Returns generated from the property market measured by the SPRD (spot property) Index during the holding periods (in %)

[4]Age of the properties when the spot sales were conducted (in years)

[5] Annual discount rates required in the market (in %)

[6] Construction time-lag during the forward contract period (in years)

[7] Total discounts required to compensate the additional cost of capital during the construction time-lag (in %)

6.5 Estimation Results

The Ordinary Least Square (OLS) Method was used for the statistical testing to validate the FSIT Model and the results are contained below.

6.5.1 OLS estimates of the FSIT Model on the twelve estates

Table 6.2 shows the OLS estimates of the FSIT Model outlined in Equation 6.3 with the data collected from the twelve estates.

Table 6.2 OLS estimates of the FSIT Model on the sample set of the twelve estates

Explanatory Variables	Coefficient	Std. Error	t-Stat	Prob.
Constant β_1	0.0336	0.0077	4.35	0.0000
Spot market returns β_2	0.7905	0.0090	88.23	0.0000
Discount factor β_3	0.6822	0.1904	3.58	0.0003
Aging β_4	-0.0262	0.0018	-14.69	0.0000
Hidden presale risks β_5	0.0190	0.0132	1.44	0.1488
Adjusted R-squared			0.8257	
F-stat			3254.29	
No. of pair sales *(N)*			2748	

The results show that the signs of all the estimated coefficients from the study turned out as expected except the dummy variable representing the hidden presale risks. The coefficient attached to the spot market return, β_2, at 0.7905 is not only significant but also high which shows that the relative price changes of both the forward property market and the spot market were not only in the same direction during the study period but also with a close degree of synchronization. The coefficient attached to the aging effect, β_4, has a negative sign which confirms depreciation due to the aging of the properties. Regarding the coefficient attached to the hidden presale risks, β_5, it is interesting to find that the coefficient has an opposite sign, not as expected (a positive sign), and is also statistically insignificant. Before drawing a conclusion on this issue, regression on the individual estates is conducted to examine whether there is abnormality found in any particular estate.

6.5.2 OLS estimates of the FSIT Model on the twelve individual estates

Table 6.3 shows the OLS estimates of the twelve individual estates generated from the FSIT Model. Although the coefficients attached to their respective explanatory variables

are not all significant, some insights can be drawn from the results. It is noted that the coefficients attached to the hidden presale risks of nearly all the estates are found to be negative except the three estates, namely La Vista Villa (LV94), Kingswood Villa (KV95) and East Point City (EPC97). Upon further examination of the characteristics of these three estates, something in common among them can be found. These three housing estates were located in newly developed districts in which transportation and the necessary amenities for the community were limited when the presales were offered.

Table 6.3 OLS estimates of the FSIT Model on the twelve individual estates

Estate	Constant	Spot market returns	Discount factor	Aging	Presale hidden risks	F-Stat	Adj R^2
SH93	0.007	0.854**	1.139	-0.006	-0.005	477.3**	0.83
VA93	0.062**	0.749**	0.557	-0.031**	-0.076	628.2**	0.87
LV94	**0.105****	**0.985****	**2.126**	**-0.001**	***0.020***	**313.0****	**0.86**
KT94	0.070*	2.127**	2.605	-0.030**	-0.088	123.8**	0.81
FP95	0.065**	0.683**	3.331	-0.050**	-0.055	492.9**	0.86
KV95	**0.007**	**0.671****	**9.074**	**-0.047****	***0.118***	**422.5****	**0.94**
RA96	0.045**	0.868**	2.838*	-0.009	-0.125	1334.2**	0.94
SC96	0.042*	0.774**	-1.541	-0.018**	-0.099**	493.6**	0.95
EP97	**0.021**	**0.979****	**2.141**	**-0.028****	***0.102***	**336.3****	**0.78**
VP97	-0.067*	0.849**	2.373	-0.006	-0.017	68.0**	0.50
LC98	0.055*	0.819**	13.392**	-0.054**	-1.336**	100.5**	0.77
VO98	0.024	1.096**	3.952*	-0.002	-0.129	101.9**	0.88
Twelve Estates	0.034**	0.790**	0.682**	-0.026**	0.019	3254.3*	0.83

Notes: * and ** indicate significance at the 5% and 1% levels respectively

La Vista is located in Lantau Island and the only means of transportation was by ferry when it was constructed in 1994. Similar to La Vista, Kingswood Villa is located in an isolated area in Tin Shui Wai and East Point City is located in Tseung Kwun O in which the transportation means and amenities available were also limited when they were

constructed in 1995 and 1997 respectively. By now, not only more transportation means have been built to link the three districts to urban areas including highways and Mass Transportation Rails, but the districts have also been developed into self-contained communities with all the necessary amenities available. As such, these three housing estates have violated the assumption of "no quality change" during the repeat sales period in terms of the amenities available and their accessibility and should, therefore, be excluded from the sample set.

6.5.3 OLS estimates of the FSIT Model on the nine housing estates

After excluding the three housing estates which violated the assumption of "no quality change" from the sample set, the nine estates remaining in the revised sample set were tested and Table 6.4 contains the OLS results. The results show that the signs of all coefficients attached to the explanatory variables were generated as expected including that of the hidden presale risks. The coefficient , β_2 , measuring the elasticity of the percentage change in the price difference of the forward-spot properties for a percentage change of the price difference of the benchmark spot properties, is at 0.7869. It is not only significant but also high, which indicates that the relative price changes of both the forward property market and the spot market during the study period were not only in the same direction but also with a close degree of synchronization.

Table 6.4 OLS estimates of the FSIT Model on the revised sample set of the nine estates

Explanatory Variables	Coefficient	Std. Error	t-Stat	Prob.
Constant β_1	0.0351	0.0084	4.16	0.0000
Spot market returns β_2	0.7869	0.0099	79.88	0.0000
Discount factor β_3	1.2983	0.2044	6.35	0.0000
Aging β_4	-0.0266	0.0020	-13.52	0.0000
Hidden presale risk β_5	-0.0542	0.0156	-3.48	0.0005
Adjusted R-squared				0.8412
F-stat				2731.08
No. of pair sales *(N)*				2062

The discount factor shows a positive coefficient of 1.298 which indicates that a discount was embedded in the presale prices for compensating the missing rent to cover the additional cost of capital invested during the construction time-lag. The aging factor shows a negative coefficient of -0.0266 which is approximated at a depreciation rate of 2.62% per annum in depreciation of property values[29]. The negative coefficient of -0.054 attached to the hidden presale risks suggests that a wealth transfer is found only in the price changes of forward-spot pair-sales, but not in the spot-spot pair-sales of the same properties. This supports the proposition that presale property buyers had paid an extra amount of approximately 5%[29] on the presale property prices higher than the expected prices of the same set of properties sold in the spot market in which no hidden presale risks were present.

6.5.4 Revised FSIT Model on the nine housing estates

It is interesting to note that the coefficient, β_2, measuring the elasticity of the percentage change in the price difference of the forward-spot properties for a percentage change of

[29] For estimations of the depreciation rate and the wealth transferred from presale property buyers to developers, refer to the Appendix VII.

the price difference of the benchmark spot properties, is found smaller than 1 at 0.7869 in the validation of the FSIT Model (in Table 6.4). Since the coefficient, β_2, is used to define the relationship between the logarithm of the price difference of the forward-spot properties and a percentage change of the price difference of the benchmark spot-spot properties. The price difference of the forward-spot properties are presented in logarithm which is the same as returns derived from the continuous compounding formula, whereas the price difference of the benchmark spot-spot properties are in form of discrete returns, the continuous returns generated from the logarithm would be smaller than the discrete returns and thus β_2 is lower than 1.

As an alternative, logarithm on both the price differences of the forward-spot properties and the price differences of the benchmark spot-spot properties can be taken. By doing so, β_2, which is then used to define the relationship between the log-price difference of the forward-spot properties and the log-price difference of the benchmark spot-spot properties, would then be close to 1 since logarithm has been taken on both the dependent and independent variables. To verify this, a revised FSIT Model has been built using the alternative approach and E6.3 is revised as**,**

$$\ln(P_2 / P_1) = \beta_1 + \beta_2 \ln m + \beta_3 r\tau + \beta_4 a + \beta_5 h + \varepsilon \qquad \text{E6.4}$$

where

$\ln(P_2 / P_1) =$ logarithm of the relative price changes of the two sets of repeat sales data from the same properties. $\ln(P_{St_1} / P_{Ft_{-1}})$ if they are forward-spot pairs, and $\ln(P_{St_2} / P_{St_1})$ if they are spot-spot pairs

$\ln m$ = logarithm of the market returns generated from the benchmark spot index; the period is from t_{-1} to t_1 if the dependant variable is a forward-spot pair, and from t_1 to t_2 if the dependant variable is a spot-spot pair

Regarding the discount factor, the best lending rate (BLR) was considered to be an appropriate proxy of the discount rates in validating the FSIT Model since mortgage rates are privately arranged rates between the banks and the mortgagors which are not publicly available. As an alternative, it was a common practice of bankers that the mortgage rates had been assumed at BLR+1.75% before the deregulation of interest rates in 2000, and then at around 2.5% below BLR afterwards due to the intense competition of the mortgage business in the industry since the deregulation. Taking this into consideration, the assumed mortgage rates were used to replace the BLR to test the revised FSIT Model shown in E6.4.

Table 6.5 OLS estimates of the revised FSIT Model on the nine housing estates

Explanatory Variables	Coefficient	Std. Error	t-Stat	Prob.
Constant β_1	0.0155	0.0104	1.49	0.1357
Spot market returns β_2	0.9751	0.0113	86.31	0.0000
Discount factor β_3	0.9681	0.1665	5.81	0.0000
Aging β_4	-0.0166	0.0018	-3.60	0.0003
Hidden presale risk β_5	-0.0514	0.0156	-3.29	0.0010
Adjusted R-squared				0.84
F-stat				2749
No. of pair sales *(N)*				2062

Table 6.5 contains the OLS estimates of the revised FSIT Model. The results show that the signs of all coefficients attached to the explanatory variables were generated as expected including that of the hidden presale risks. The coefficient, β_2, measuring the

percentage change in the price difference of the forward-spot properties for a percentage change of the price difference of the benchmark spot properties, is at 0.9751 when logarithm is taken on both the price differences of the forward-spot pair properties and the benchmark spot-spot pair properties. It is not only significant but also closed to one, which indicates that the relative price changes of both the forward property market and the spot market during the study period were not only in the same direction but also with a very close degree of synchronization.

The discount factor shows a positive coefficient of 0.9681 which indicates that a discount was embedded in the presale prices for compensating the missing rent to cover the additional cost of capital invested during the construction time-lag. The negative coefficient of -0.0514 attached to the hidden presale risks also suggests that a wealth transfer was found only in the price changes of forward-spot pair-sales, but not in the spot-spot pair-sales of the same properties. This again supports the proposition that presale property buyers had paid an extra amount of approximately 5% on the presale property prices higher than the expected prices of the same set of properties sold in the spot market in which no hidden presale risks were present.

6.5.5 OLS estimates on presale properties only

The revised FSIT Model was used to compare the pricing behaviors between presales (forward-spot pair-sales) and spot-sales (spot-spot pair-sales) of the same set of properties during the study period. The results suggest that presale property buyers had paid a higher price in buying properties from the forward market in which a group of

hidden presale risks were found compared to the sales conducted in the spot market in which no hidden presale risks were present.

On the other hand, it would be interesting to know how presale properties perform on their own in the forward property market. To do this, a separate test which contains only forward-spot pair sales in the dependant variable of the nine housing estates is needed. Adapting the revised FSIT Model, the dummy variable of hidden presale risks is then excluded from the test because the spot-spot pair sales are taken out from the dependant variable set, Equation 6.4 is revised as

$$\ln(P_{St_1} / P_{Ft_{-1}}) = \gamma_1 + \gamma_2 m + \gamma_3 r\tau + \gamma_4 a + \varepsilon \qquad \text{E6.5}$$

The effect of the hidden risks which are specific to the forward market is, therefore, absorbed in the intercept, γ_1, through the regressing process. Based on what the revised FSIT Model proposed that a higher price is imposed by the developers on the presale prices taking advantage of the asymmetric information, a lower value should be obtained from the intercept generated from Equation 6.5, γ_1, compared to that of the revised FSIT Model, β_1, outlined in Equation 6.4, indicating the amount of wealth transferred from the presale property buyers to the developers.

Table 6.6 Comparison between the forward-spot pair-sales and the revisesd FSIT Model

Explanaory Variables	Forward-spot pair sales only (E6.5)		The revised FSIT Model (E6.4)	
	Coefficient γ	t-Stat	Coefficient β	t-Stat
Constant	-0.0299	-1.58	0.0155	1.49
Spot market returns	0.9727	64.99	0.9751	86.31
Discount factor	0.9325	5.85	0.9681	5.81
Aging	-0.0115	-4.07	-0.0166	-3.60
Hidden forward risks	N/A	N/A	-0.0514	-3.29

The test was carried out using the same sample set as for the previous tests. The results of the OLS estimates on the forward-spot pair sales only (Equation 6.5) compared to that of the revised FSIT Model (Equation 6.4) on the same set of properties are contained in Table 6.6. The comparison shows that the coefficients attached to the explanatory variables of the spot market return, aging impact and discount required between the two tests during the study period are very similar. However, the intercept generated from the forward-spot pair-sales only at -0.0299 is very much lower than that of the revised FSIT Model at 0.0155, of which the impact of the hidden presale risks has been considered under a separate variable. The range of the differences is -0.045 [from -0.0299 (γ_1 in Equation 6.5) to 0.0155 (β_1 in Equation 6.4)] which is approaching to β_5 of -0.0514 in Equation 6.4. The result once again confirms the suggestion proposed by the (revised) FSIT Model that presale property buyers had paid an extra amount of about 5% on the presale prices in the forward property market, higher than the expected prices required in the spot property market in which the group of hidden presale risks was not present during the study period.

6.5.6 Validity of the FSIT Model

Log-liner functional form - In the (revised) FSIT Model, a log-linear function is used as the form of regression which is able to measure the percentage change of the property returns of the sample set for a given percentage change of the returns of the tracker (spot market) index (Gujarati 2003). Although it is not easy to determine the appropriate functional form in multiple dimensions through graphical examination, the sketch scattergrams between the dependent variable and individual explanatory variables can give some clues about the relationship as to whether the functional form chosen for the Model is appropriate. As shown in Figures 6.5b, the logarithm of the price differences (LNPDIFF) shows an improved linear relationship with the logarithm of the respective individual explanatory variable of the Tracker index (LNMRETURN) compared to the linear model shown in Figure 6.5a (PGAREADIFF vs. MRETURN).

Figure 6.5 Comparison of the linear and log-linear function between the price differences and the market index

Figure 6.5a: Linear function between price differences and market index

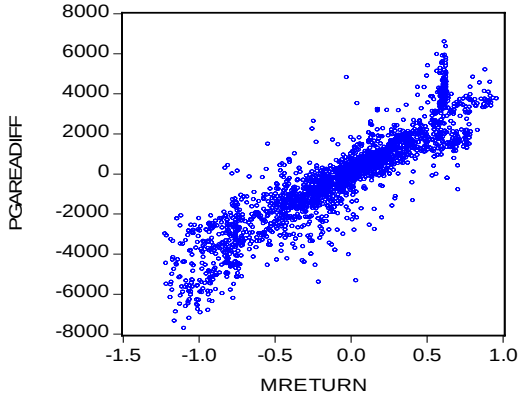
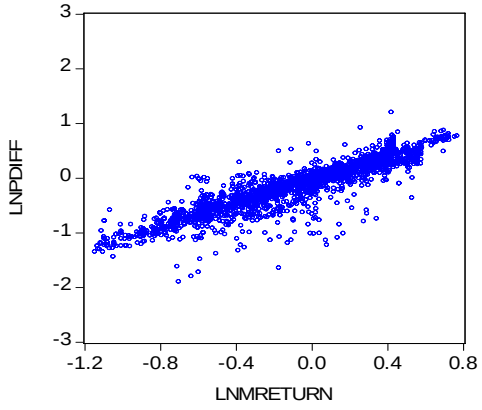


Figure 6.5b: Log-linear function between price differences and market index



Regarding the aging effect, a log-lin function is found more appropriate. As shown in Figure 6.6b, the logarithm of the price differences (LNPDIFF) shows an improved relation with the aging effect (AGE) compared to that of the linear model (PGAREADIFF vs. AGE) shown in Figure 6.6a.

Figure 6.6 Comparison of the linear and log-lin function between the price differences and the aging effect

Figure 6.6a: Linear function between price differences and aging effect

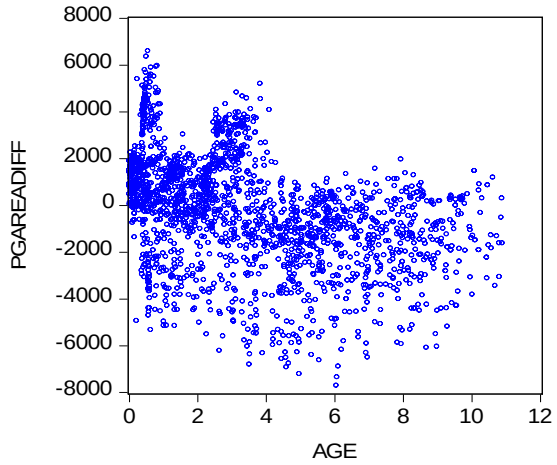
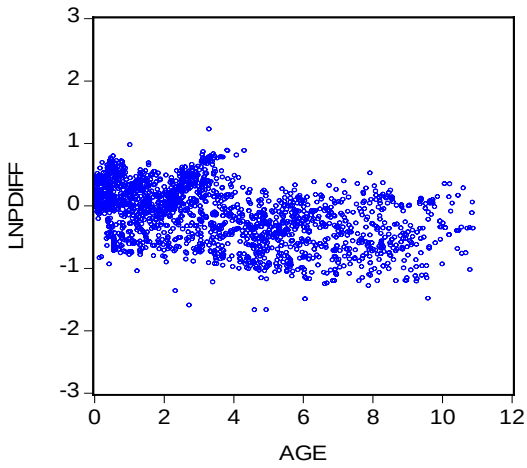


Figure 6.6b: Log-lin function between price differences and aging effect



Multicollinearity **-** The problem of the collinear relationship between the time dummies and the aging factor used in the repeat sales method has been given a lot of attention by various studies (Chau *et al.*, 2003; Knight and Sirmans, 1996; Quigley, 1995). This is because the difference in building ages between the two sales for measuring the aging effect is an exact linear combination of the time dummies used in the repeat sales method. Instead of using time dummies, the (revised) FSIT Model applies the index tracking method using the market spot index as the proxy which can eliminate the mutlicollinearity problem of time dummies used with the aging time factor. Therefore, the multicollinearity problem is considered minimum in the (revised) FSIT Model. As

shown in Table 6.7, the Tolerance tests (TOL) of each of the explanatory variables with respect to the remaining explanatory variables are not close to zero and their Variance Inflation Factors[30] (VIF) are far from ten, suggesting that the degree of collinearity among the explanatory variables is low and the multicollinearity is considered minimal.

Table 6.7 Tolerance and Variance Inflation Factor of the explanatory variables

Explanatory Variable	VIF	TOL
Spot market return	1.2685	0.7883
Discount factor	1.3112	0.7626
Aging factor	1.5899	0.6289

Heteroscedasticity – To investigate whether the disturbance variance, u^2, is constant across the observations of the explanatory variables, the Koenker-Bassett (KB) test was conducted to test heteroscedasticity displays between the square-residuals and the square-estimated dependent variable of the (revised) FSIT Model, as shown in Equation E5.10. The null hypothesis was set where $\alpha_2 = 0$ and the results are shown in Table 6.8. The Table shows that the correlation coefficient attached to the square-estimated variable, α_2 = -0.0081, is not statistically significant. The results suggest that the null hypothesis cannot be rejected and, therefore, no heteroscedasticity is present in the Model.

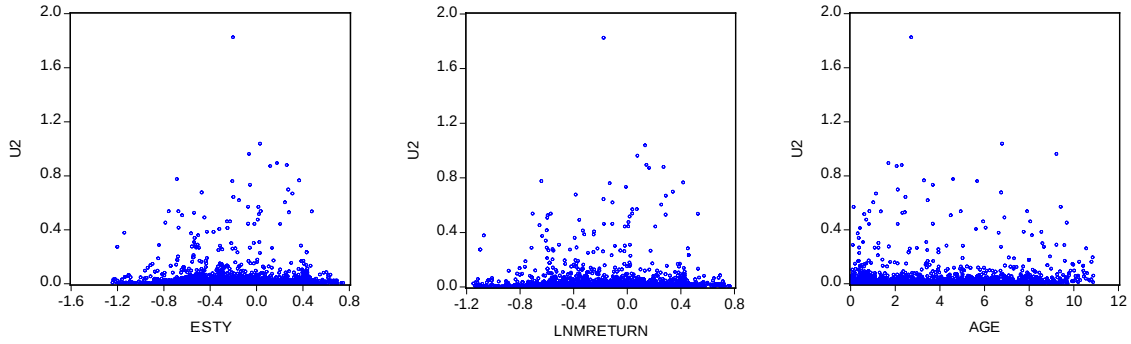
[30] As a rule of thumb, if the VIF of a variable exceeds 10 and the TOL is close to zero, the greater the degree of multicollinearity of that variable with the other explanatory variables (Gujarati, 2003).

Table 6.8 Koenker-Bassett (KB) test on heteroscedasticity

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.0365	0.0028	13.10	0.0000
$(\hat{Y}_i)^2$	-0.0081	0.0086	-0.94	0.3468

Scattergrams are also drawn using the estimated square-residual, u^2, against the individual explanatory variables to check whether there is any systematic pattern exhibited as shown in Figure 6.7.

Figure 6.7 Scattergrams of estimated squared residuals (U2) against the variables



(a) (b) (c)

As seen from the Figures, there are no specific patterns between the squared residuals (U2) and the variables of estimated price change (ESTY) shown in Figure 6.7a, the market return (LNMRETURN) in Figure 6.7b or the aging factor (AGE) in Figure 6.7c, which suggest that heteroscedasticity is not found in the data set (Gujarati, 2003).

To sum up the results, the (revised) FSIT Model is considered efficient in pricing presale properties with high adjusted explanatory power at 84% (in Table 6.5). The use of log-linear functional form is also appropriate with minimal multicollinearity and no

heteroscedasticity is found, and the regression model as a whole is also statistically significant.

6.6 Summary

This chapter has set up the (revised) FSIT Model for pricing presale properties. The Model is able to capture not only the risks arising from market uncertainty during the construction time-lag and the capital finance risk due to the interest rate fluctuation, but also the group of hidden presale risks arising from asymmetric information inherent in the forward property market.

The results show that, first, the market returns generated from presale properties in Hong Kong during the study period tracked along closely to those of spot properties. Second, a discount correlated to the interest rate at the time when the presale was transacted and the length of the construction time-lag was demanded on the presale prices to compensate the additional cost of capital incurred to the buyers within the forward contract period. On the other hand, a wealth transfer averaging at about 5% of the presale prices was found in the pricing of the presale properties, which supports the proposition that developers could have charged prices in the presales higher than the prices of these properties sold in the spot market in which no hidden presale risks were present. This is a valuable finding to property practitioners, showing the extent of the extra amounts that buyers have paid on the presales in order to get the properties that they desired from the forward property market.

CHAPTER 7 EVALUATION OF PROPERTY PRESALE POLICIES

This chapter reports an interview survey that collected the views from different stakeholders in the community for analyzing the regulatory system of the Hong Kong forward property market. First, policy arguments on the current presale measures and the proposed alternatives from the interviewees representing the unique interests of the different stakeholders were collected. Then, preferred policies which can help deter property presale risks so as to promote fair-pricing of presale properties were identified. Factors which are critical for the development of forward property markets were also examined.

7.1 Introduction

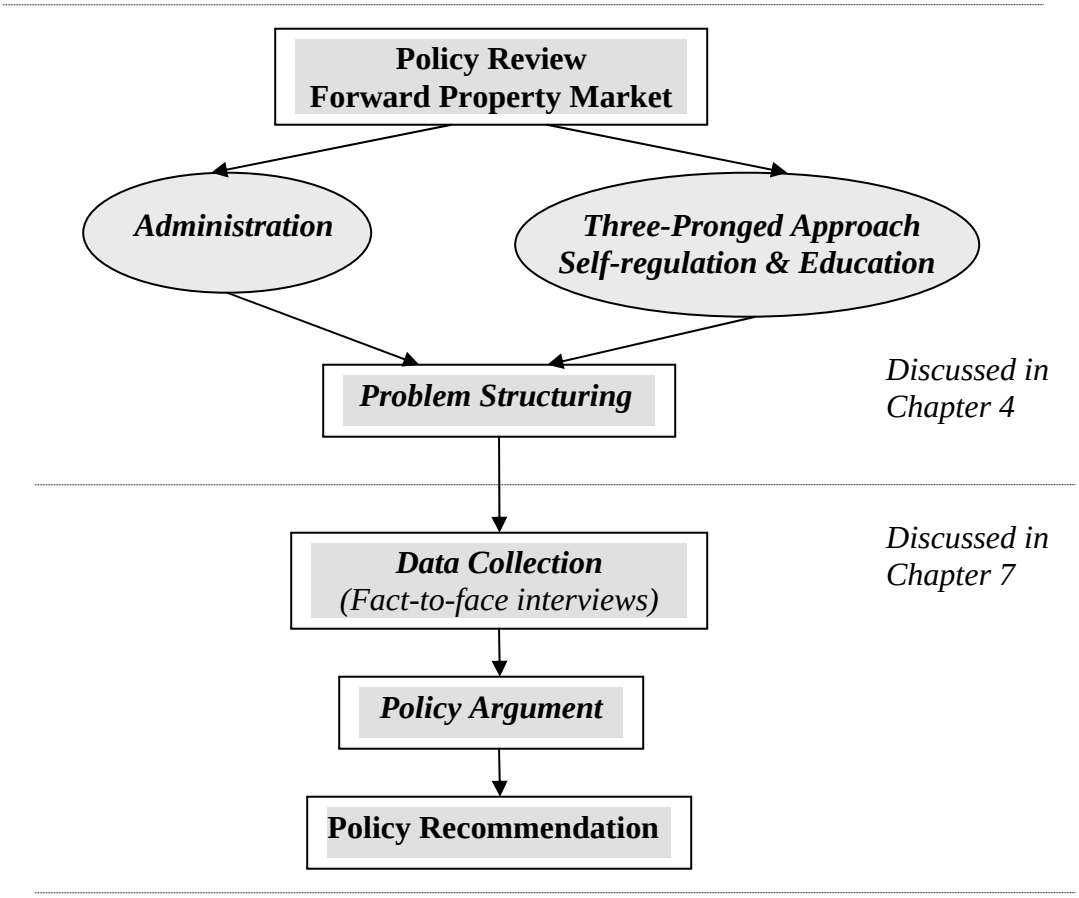
Akerlof (1970) and Whitehead (1983) stated that if asymmetric information undermines the operation of a healthy market, then government intervention is justified to increase the welfare of all parties. To mitigate the hidden presale risks arising from asymmetric information, the Hong Kong Government has introduced a regulatory system to enhance the effectiveness of the forward property market illustrated in Chapter 2. Despite the measures, the hidden presale risks are still active in the market, the roots of the problems which undermine the effectiveness of the measures having been discussed in Chapter 4. The FSIT Model constructed in Chapter 6 also reveals that developers are able to charge a price on the presale properties higher that the price when the properties are sold in the spot market in which no hidden presale risks are present. To explore this further, a

survey was conducted to collect views from different community stakeholders to evaluate the current policies and the preferred alternatives proposed with the aim of enhancing transparency of the information available in the forward property market and helping to promote fair-pricing of presale properties.

7.2 Research Methodology

Policy analysis is a useful technique for evaluating the policies employed in a regulatory system (Dunn, 2004). Through the analysis, better policy options can be created and knowledge can also be generated for the policy-making process. The stages of policy analysis include problem structuring, data collection and analysis, policy argument and policy recommendation, as illustrated in Figure 7.1.

Figure 7.1 Stages for policy analysis of the forward property market



Problem structuring **-** To start the study, a comprehensive review of the policies being employed in the forward property market is needed, with the aim of identifying the problems and examining how they hinder the operation of the policies. This process of problem structuring can assist in identifying the problem situations, substantive problems and the roots of the problems which have already been discussed in Chapter 4.

Data collection and analysis – After identifying the problems and examining the roots of the problems, the next step is to collect relevant data in order to generate the policy-relevant information. To achieve this purpose, interviews with notable figures representing the interests of different parties of the industry were conducted in order to gather not only the professional opinions but also the views of consumers in regard to the regulatory mechanism being employed in the forward market and the appropriate monitoring system to be adopted. Interviewees included developers, engineers, surveyors and estate agents representing the professional opinions of the industry; and legislators, members of the CC, presale property buyers and consumers representing the interests of the public. Based on analyses from the data collected, the consequences and constraints of existing policies were identified so that different policy options could be drawn.

Policy Argument - To determine the choice among the different property presale policies to be adopted, policy argument must be addressed. Arguments are complex in real-life policy setting and practical reasoning must be structured to support the arguments. Based on the analyses of the information collected, a discussion of the political feasibility (support and opposition) of different property presale policy options is presented.

Policy recommendation - Based on the policy-relevant information generated from the survey about the pros and cons of the preferred policies and the practical reasoning on the feasibility of the policy options, recommendations on the preferred policies which can

help deter the hidden presale risks and promote fair-pricing of presale properties are made. Administrative responsibilities for implementing the policies are also assigned.

7.3 Face-to-Face Interviews

Face-to-face interviews were conducted with market representatives to solicit their views on the property presale policies employed in the Hong Kong forward property market.

7.3.1 Interview questionnaire

The interview questions were divided into 3 sections which are contained in Table 7.1.

Table 7.1 Structure of the interviews

Section A: Hidden Property Presale Risks
To deter developer's default risk on developments - Whether the measures taken in the Consent Scheme are effective - Any further comments to enhance the protection
To deter the risk on completion delay - Whether the measures and compensation enforced are effective - Any further comments to enhance the enforcement of the policies
To deter the risk of high building defects - Whether the requirements are adequate in up-keeping the building quality - Should retention money being used in property presales?
To deter the risk on exaggeration of saleable areas - Whether the recommendations made in the White Bill are feasible - Whether the recommendations made by HKIS recently are helpful - Any other comments to enhance the accuracy of the measurements
To deter the risk of features mismatch upon completion - Whether the recommendations made in the White Bill are feasible - Whether the proposed fines can help enforce the measures - Any other comments to deter the mismatch
To deter the risks of unethical presale tactics - Whether the REDA guidelines can enhance the transparency in the market - How to make the guidelines enforceable - Should explicit penalties be stipulated for breach of guidelines?
Section B: Role of the Government, REDA, CC and EAA
The role of the Government - Whether the Government has fully committed to protecting presale property buyers Why / Why not? - Any other comments on the role that the Government should play
The role of the REDA - Whether the self-regulatory system is effective - Any means to improve the efficiency of the self-regulatory system
The roles of the CC and the EAA - Any further measures they can adopt to protect presale property buyers - Any further actions they can take to enhance consumer education and information access
Section C: Personal Preference on presale property
Personal preference on presale property - Will you purchase presale property? Why / Why not? - Do you think that presale properties are priced higher than spot properties? - Are you willing to pay a higher price to get a presale property?

Section A - This section contains the questions used to solicit the views of interviewees on the seriousness of the six respective hidden presale risks, the effectiveness of the current presale policies and the feasibility of the proposed alternative measures.

Section B - This section contains the questions used to examine the roles played by the different market players in enhancing the transparency and the well-being of the forward property market. They included the Government, the REDA, the EAA and the CC.

Section C - This section contains the questions used to explore the personal preferences of individual interviewees on a purchase of an uncompleted property in the current forward property market.

7.3.2 Profiles of the ten interviewees

Between May and July 2007, ten interviews were undertaken to solicit the views of different stakeholders in the community with regard to the regulatory system of the forward property market in Hong Kong. The ten interviewees were divided into three categories according to the stakes they held in the market (Table 7.2).

Table 7.2 Categories of the ten interviewees

	Category 1: From the Public
1st	Miss Winnie CHEUNG (Consumer and presale property buyer)
2nd	Mr. Freakley KWOK (Consumer and presale property buyer)
3rd	Ms. Theresa Y.H. LEUNG (Consumer and presale property buyer)
4th	Miss Margaret O.Y. WONG (Consumer)
	Category 2: From Pressure Groups
5th	Hon. Legislator Lee Wing-Tat (Legislator and Chairman of the Panel of Housing of the Legislative Council)
6th	Ms. Connie Y.H. LAU (Chief Executive of the Consumer Council)
	Category 3: From Professional Bodies
7th	Mr. Louis LOONG (Secretary General of the REDA)
8th	Mr. SHIH Wing-Ching (Chairman of Centaline Property Agency Limited and Member of the EAA)
9th	Mr. Bernard M.B. HUI (Hon. Secretary of the HKIA)
10th	Ir. Dr. LO Wai-Kwok (President of the HKIE)

Category 1: Consumers from the public - This category included four interviewees from the public representing the interest of general consumers. They were Miss Winnie Cheung, Mr. Freakley Kwok, Ms. Theresa Y.H. Leung and Miss Margaret O.Y. Wong. The four interviewees were referred by the Democratic Party, one of the largest political parties and an influential social pressure group in Hong Kong. They were selected randomly from those who had bought presale properties and those who had not among the members of the Democratic Party.

Out of the four referred interviewees, three had bought presale properties before and the other one had not bought any property. This gives not only a fair representation of views from different walks of life, but also a stratified sample which embraces the possible feedbacks from those who were interested and/or involved in home-buying. Among

them, Ms Leung had bought presale properties before whereas Miss Wong had not bought any property yet. The other two, Miss Winnie Cheung and Mr. Freakley Kwok, had bought presale properties in recent years. The aim of selecting this group of interviewees was to seek the views of consumers on the regulatory system of the forward property market and the experiences in their purchases of the presale properties.

Category 2: Members from the pressure groups -This category included members of the Legislative Council and the CC. They were Hon. Legislator Lee Wing Tat, who was also the Chairman of the Panel of Housing of the Legislative Council when the interview was conducted, and Ms. Connie Lau, who was the Chief Executive of the CC. The aims of selecting this group of interviewees were:

- to examine the seriousness of the hidden presale risks based on the complaints filed in their office,
- to seek their views on how consumer protection can be enhanced,
- to look for ways in which the operation of the presale market can be improved.

Category 3: Representatives from the professional institutions - This category consisted of representatives from professional institutions in the real estate market and the construction industry. They were Mr. Louis H.B. Loong, Secretary General of the Real Estate Developers' Association of Hong Kong (REDA); Mr. Shih Wing Ching, Chairman of Centaline Property Agency Limited, one of the largest estate agencies in Hong Kong, and Member of the Estate Agents Association (EAA); Mr. Bernard M.B. Hui, Hon. Secretary of the Hong Kong Institute of Architects (HKIA); and Ir. Dr. Lo Wai Kwok,

President of the Hong Kong Institution of Engineers (HKIE). The aim of selecting this group of interviewees was to look for the views from the professionals practicing in the industry on the feasibility of the proposed alternative policies for forming the policy arguments. An invitation had been sent to the Hong Kong Institute of Surveyors (HKIS). Unfortunately, the Institute turned down the interview due to the sensitivity of the issue in the public at the time when the study was undertaken.

7.4 Summary of the Views on the Hong Kong Forward Property Market

Table 7.3 summarizes the degree of seriousness of the hidden presale risks perceived in Hong Kong as ranked by the ten interviewees, and Table 7.4 shows the mean scores of the various risk factors for the three interview groups representing the interests of different stakeholders.

Table 7.3 Ranking of the seriousness of the hidden presale risks in the Hong Kong forward property market

Interviewee	*Development default*	*Delayed Delivery*	*Building defect*	*Exaggeration of floor areas*	*Feature mismatch*	*Unethical sales tactics*
1st	1	4	3	4	4	4
2nd	1	2	1	4	4	4
3rd	1	2	3	4	3	4
4th	1	2	3	4	3	4
5th	1	2	3	4	3	4
6th	1	2	3	4	3	4
7th	1	2	2	1	2	3
8th	1	2	3	4	2	4
9th	1	2	2	2	2	4
10th	1	2	2	4	3	4
Average score	*1*	*2.2*	*2.5*	*3.5*	*2.9*	*3.9*

The notations represent:

1 - the risk is not apparent,

2 - the risk poses a problem but the degree is not serious,

3 - the risk is apparent and the impact is serious in some developments,

4 - the risk is imminent, the impact is very serious and causes public concern.

Table 7.4 Ranking of the seriousness of the risk factors by different interest groups

Interviewee	*Development default*	*Delayed delivery*	*Building defect*	*Exaggeration of floor areas*	*Feature mismatch*	*Unethical sales tactics*
General public	1	2.5	2.5	4	3.5	4
Pressure groups	1	2	3	4	3	4
Professional bodies	1	2	2.25	2.75	2.25	3.75

As shown from Table 7.3, both the risks of development default and delayed delivery have been considered not serious in Hong Kong with an average rating of 1 and 2.2 respectively. However, the risks on exaggeration on floor areas and the use of unethical sales tactics have been commented as very serious with an average rating of 3.5 and 3.9 respectively. Interestingly, when we refer to the mean scores of the risk factors shown in Table 7.4 for the three interview groups, the results are quite different. Representatives from all the three interview groups showed that the risk on the use of unethical sale tactics is imminent and the impact is serious with a rating ranging from 3.75 to 4. However, their views are wide in regard to the risk of exaggeration of floor areas. The representatives of professional bodies gave a mean score of 2.75 whereas representatives from both the public and the pressure groups gave a mean score of 4.

Apart from the views collected from individual interviewees with regard to the seriousness of the hidden presale risks embedded in the forward property market, many interesting and distinctive insights into both the current presale policies and the proposed alternatives were also gathered from each of the interviewees and they are discussed as follows.

7.4.1 Hidden property presale risks

Development default **-** The problem of development default in Hong Kong was considered not serious and ranked the lowest of the six risk types with an average score of only 1, as can be seen in Table 7.3. The following is a summary of the reasons for the low default rate given by the interviewees:

- the administrative measures are adequate to control the defaults;
- most of the properties are constructed by large developers who are financially sound;
- the land premium comparing to the corresponding construction cost is much higher because of the high land price policy - if developers default on developments, they will lose all the money that they have invested in the land purchase.

Delayed Delivery **-** There were divided views with regard to the risk of delayed delivery. Most interviewees shared the view that delays happened every now and then but the periods were within an acceptable range. The impact of the risk was, therefore, considered not serious in general with an average score of 2.3. Substantial delays were found only in a few isolated cases. However, one interviewee believed that there had to

be a lot of hidden delays which had not been revealed to the public since no formal updated statistics were published for public reference with regard to the delays.

Although substantial delays happened only occasionally, very often developers had denied compensation even though they were held responsible for the delays such as in the incidence of "One Beacon Hill" discussed in Chapter 4. Furthermore, it was not uncommon that neither the cause of the delay nor the calculation of the extended period was mentioned in the notification of delay from the developer and the AP. Very often, developers would deny compensation if delays arose and they took the tactic of wait-and-see. They would take action only if the affected buyers took the case to court or to pressure groups like the CC. As developers were very resourceful, they were prepared to take a lawsuit, which might drag for years, in order to exhaust the buyers. There were a number of cases in which the buyers gave up the claims knowing that it was difficult for them to fight against the giant developers without the resources available to support a lawsuit, *i.e.* time, money and energy. More incidents happening in recent years relating to delayed delivery are contained in Appendix I.

Based on the above discussions, it is recommended that:

- it should be made mandatory that buyers must be informed about the reason for the delay and how the extension is calculated if a delay is occurred;
- buyers should be educated about the risk involved in buying a presale property and where to find help, e.g. from the CC or Legal Aid Services Council;

- more information should be made available for public scrutiny on the performances of developers.

Building defects **-** The views collected from the interviewees with regard to the risk of building defects are interesting, being rated an average score of 2.5. Some interviewees commented that they did not know whether the extent of the risk was serious or not because there was only piecemeal information published in newspapers relating to building defects. Furthermore, owners might not want to disclose the defect problems fearing that it could affect the value of their properties in subsequent re-sales. Some considered that the extent of the risk was serious. For example, more than 10% of the complaints received by the CC relating to building in 2006 were about building defects[31].

On the other hand, interviewees from professional bodies perceived that the building quality of the overall property market in Hong Kong had been enhanced in recent years. Nevertheless, they believed that building quality produced by different developers varied greatly and thus the seriousness of the risk would depend on "which developer undertook the development work". For developers who opted for a low-cost strategy, it was not surprising that the quality of their outputs was low or substandard, but the impact incuring to the buyers would be substantial. It might have taken the buyers a long time to wait for the developer to get the defects rectified before the buyers could occupy the units. Also, the buyers had to go through hassles in chasing the developer and the contractor and inspect the work being done and, sometimes, not all the defects could be rectified.

[31] The information, which had not been released to the public, was collected from the interview with the Chief Executive of the CC on 27 July 2007.

Financial loss was also incurred to them if they needed to find alternative accommodation during the time when the rectification work was being carried out.

Some interviewees reiterated that no matter what kind of development strategy or market position the developer pursued, he should keep his promise of providing reasonable quality of works and a large number of defects should not have happened in the first place. As such, disciplinary measures such as compensation and penalties should be contained in the Consent Scheme to deter the risk of unreasonable building defects and the measures should be monitored and penalties exercised whenever offences are found.

With regard to the half-year warranty period allowed in the Consent Scheme for buyers to deal with the building defects, most of the interviewees found it not adequate. Some developers tried to delay the rectification works until the warranty period expired in an attempt to avoid the liability. For consumers, the longer the warranty period the better, but a higher cost would be incurred to the development. If the cost was high, developers might transfer the cost to the buyers which might not be beneficial to either party in the end. It was suggested that as many reputable developers are giving an average warranty period of 1.5 years to buyers which could be adopted in the Consent Scheme as a standard. It could, on one hand, boost the confidence among consumers and, on the other hand, also enhance the goodwill of developers. Also, the extension would not impose any heavy financial burden on developers who produced quality work.

Although the duty of defect rectification lay with the contractor, developers would not have incentive to oversee the rectification works after the presale money was collected and thus the rectification works were often found to be slow and unsatisfactory. To overcome this problem, the suggestion of introducing retention money was welcome by presale property buyers. The money could be put into a trust account overseen by an appointed lawyer and it would be released only when all the defects were certified by the AP. However, half of the interviewees expressed that the idea of keeping retention money was good but extensive discussion must be carried out to assess its feasibility. For example, how the money was released and how long the retention should be kept, how to deal with the problem if the warranty period had expired but the retention money was still not cleared, and whether a clear title could be transferred if the retention money was being upheld.

Furthermore, the use of retention money might not be beneficial to both developers and buyers. First, it was expressed in the interviews that it is difficult to apportion the retention money among different payment terms available on a purchase of presale property. Second, the retention might upset the financial arrangement of the development and the developer might, at the end, need to transfer the extra cost to the buyers. Furthermore, the release of the retention money being kept between developers and contractors is based on judgment observed from professional standards. However, presale property buyers, from the consumer viewpoint, usually have little knowledge about construction matters and professional standards in determining whether the

rectification works are acceptable, and thus disputes with the developers on the release of the payment might arise.

Based on the above discussions, it is recommended that

- a reasonable period of at least 1.5 years, instead of half-a-year, should be allowed in the Consent Scheme for the buyers to deal with building defects;
- compensation should be given to the buyers on the financial loss incurred if the property cannot be occupied due to rectification works being taken place;
- the use of retention money is worth considering but extensive discussion is needed with regard to the pros and cons and the administration of the money retained.

Exaggeration of floor areas **-** Nearly all interviewees considered that the risk was apparent and the impact was extremely serious, and this problem received a high average rating of 3.5. Most of the interviewees expressed that there was no standard for measuring the floor areas of presale properties and the descriptions contained in presale brochures on the floor areas were also misleading. The problem was further exacerbated since the introduction of the Joint Practice Note on Green and Innovative Buildings. The Government had not been consistent with the use of the policies and there was a lack of monitoring of the measurements used by developers, which led to the problem that the GFAs and SFAs were getting bigger and bigger while the corresponding IFAs of the flats were getting smaller and smaller.

Some interviewees from professional bodies considered that the problem arose from the misunderstanding between developers and buyers because of presentation problems. As GFA had been used in the industry for quoting the unit price per square foot of the property for many years, the Government had the duty to align the measurement using GFA in order to avoid confusion, so that buyers and sellers would know the exact quantities of the goods that they were trading. Regarding the calculation of SFA, half of the interviewees considered that the green features allowed by the Joint Practice should not be included in the calculation of SFA because they had been exempted by the Government and thus no land premium had been counted in creating these areas. However, the other half of the interviewees considered that the areas should be counted as part of the SFA as costs were incurred for building them. From the developers' point of view, the amount of floor areas that could be incorporated into a site was in accordance with the approved building plan, therefore, the allegation about the exaggeration of floor areas built and sold could not be substantiated.

Regarding the proposal made by the HKIS, it was found that only one of the four interviewees who were consumers in Category A had heard about the proposal. A wider promotion of the issue was certainly needed. Nevertheless, most of the interviewees believed that the proposal could enhance the transparency of information to buyers about the amount of floor space they could actually make use of in the flats that they bought. However, putting the proposal into practice would not be without difficulty. First, the technical issues relating to the classification of the areas, i.e. core areas and ancillary areas, might cause confusion to ordinary consumers. Second, there were also dividing

views on how to apportion the SFA into the core and ancillary areas. Third, it was considered to be the duty of the developer to inform the buyer clearly of the facilities included in the price, no matter they are core or ancillary, in order to avoid mis-understanding, so that the classification may not be necessary. Fourth, it was thought that the introduction of the new definition could not cure the problem of exaggeration. In view of the above, it was proposed that the best way to resolve the argument was the use of SFA to include both the core and ancillary areas, and the use of IFA to indicate the net usable floor area of the property. Even though the IFA of some developments may be low, buyers might still make the purchases because of the unique facilities offered in these estates. According to the professionals from the HKIE, the inclusion of IFA in presale brochures is feasible and there should not be any technical difficulty in estimating the floor areas as all the building plans are ready when construction starts. Furthermore, an adjustment of up to 5% of the up-and-down IFA could be allowed to cover any deviation on the thickness of the walls caused by different workmanship.

Based on the above discussions, it is recommended that

- the use of GFA, SFA and IFA must be standardized by the Government and included in the Consent Scheme overseen by the Lands Department for measurement of floor areas of presale properties;
- the calculation of GFA must be defined and the way to apportion the common areas into the GFA must be listed in presale brochures;
- the calculation of SFA must be defined, and the elements included in the calculation, no matter whether they are core or ancillary areas, must be listed in presale brochures;

- the inclusion of IFA based on the carpeted floor areas which allows an adjustment of up to 5% of the up-and-down IFA to cover any deviation on the thickness of the walls caused by different workmanship;
- the Lands Department must check the calculations and exercise patrols on a regular basis to check whether developers are adhering to the requirements. If developers are found violating the requirements, the Lands Department must take away the Consent for presale to give a signal to the market. If wrong-doings are found after all the presales have been conducted, remedial actions in correcting the information must be taken by the developers and penalties, e.g. fines and/or suspension of future applications, must be imposed.

Mismatch of fittings and features - The responses of interviewees on this issue were mixed, with an average score of 2.9. About one-third of the interviewees considered that developers would honor what they had promised in most cases. Another one-third of interviewees were not sure whether the risk was apparent as there was not much news around and no statistics were available relating to this issue. Some considered that the problem happened only on the developments of a few developers. The remaining one-third of the interviewees considered that the risk had posed a serious problem in the presale market. They observed that developers use a lot of attractive features such as luxurious club houses, unique swimming pools and spacious gardens to promote the developments to attract prospective buyers. However, they believed that the information given by estate agents and contained in presale brochures were often vague and without legal binding. As a result, the quality and the facilities were considered to be overstated

and it was commented that developers had put a small print at the end of the presale brochures saying that they reserved the right to change the fittings. Although it was claimed that buyers could sue the developers for compensation if any mis-representation was found, in reality, taking into consideration the proofs needed and the time, money, knowledge and energy required to file a lawsuit against resourceful developers, buyers usually made complaints to the CC and the pressure groups instead of taking the developer to court, such as in the ceiling-height dispute of "Royal Jubilee".

One of the interviewees encountered a similar unpleasant experience relating to the view of the unit bought. She wanted to get a property with no blocking view and the agent reiterated that the view of the unit (on 31st floor) she chose would not be blocked by the opposite building in front while the developer's sales representatives were also there listening to what the agent said. Not long after, the interviewee was very upset when she found that the view of the unit she had bought was blocked, and she went to negotiate with the agent and the developer. However, both the agent and the developer denied the responsibility. This interviewee suggested future presale property buyers to bring a camcorder to take down all the details made by the agents in the presales just in case disputes arise.

Regarding the recommendations made in the White Bill, half of the interviewees welcomed the proposals but the other half questioned the feasibility of some of the measures recommended. For example, the recommendations about retaining the evidence including the show-flat was considered not to be feasible since most presale

venues where show-flats are put up are located in shopping arcades under short-term high-rent lease. There are also restrictions on placing show-flats on construction sites. Furthermore, it was said that show-flats cannot be treated as the standard because the completed flats to be delivered to the buyers are without decoration, and many fittings like air-conditioners are only gifts given away by developers. Regarding the proposed fines, ranging from $1 million to $5 million, this could be treated as a gesture to signal the wrong-doing of the developers. However, the amounts are not considered to be substantial in deterring the mismatch compared to the billions of dollars in value invested in the project. The only effective penalty is to stop the Consent for presales.

Most interviewees believed that attaching the presale brochures to the ASP can provide certain protection to buyers, and this is considered to be a reasonable request and a "fair-deal". Buyers should get what they have been promised. This will not do any harm to developers since they should sell what they can produce. The CC also supported the suggestion to include the presale brochures as part of the contract for the following reasons:

- the features which have been promised vividly must be realised by the developer no matter how vaguely they were described in the presale brochures;
- the clause 'entire agreement" contained in ASP in effect overwrites all the terms that have been previously agreed to in other documents, therefore the attachment of the brochure can enhance the protection of the buyers;
- it will be easier to prove wrong-doing through "breach of contract" instead of "mis-representation" if there is any mismatch found.

However, the CC also expressed that the effectiveness of the proposal will depend on whether the descriptions contained in the brochures are clear and whether the developers stick to what are stated in the brochures. As such, the format, terms and items to be contained in presale brochures will have to be refined. Furthermore, the Lands Department must exercise monitoring, for example to check whether the layout and dimensions of the show-flat are in proportion and whether they are inconsistent with those shown in the presale brochures. An independent organization should also be set up to oversee the presale system and to act impartially if a dispute should arise.

Based on the above discussions, it is recommended that

- the presale brochure should be attached to the ASP as part of the contract;
- the format and terms contained in presale brochures should be refined to make them plain and easily comprehended by ordinary consumers;
- more promotion to remind consumers to read the ASP before signing;
- appropriate penalties including withdrawal of Consent for presales and suspension of future application must be exercised if repeated mal-practices are found;
- the terms used in presale brochures, advertisements and commercials should be controlled, which contain only facts and promises that can be realized;
- the Lands Department must exercise monitoring, e.g. to check whether the layout and dimensions of the show-flats are in proportion and whether they are consistent with those shown in the presale brochures;

- a centralized web-site should be set up by the Lands Department to publish the information relating to property presales for scrutiny by the public, for example, the newly introduced measures and the statistics about the complaints filed to the Department.

Unethical presales tactics **-** It was noted that some of the interviewees who had already bought presale properties did not know of the existence of guidelines set up by the REDA. Nevertheless, nearly all interviewees agreed that the problems arising from the use of unethical presale tactics by developers were extremely serious, with an average risk score of 3.9, close to the maximum score. In the purchase made by one of the interviewees, the estate agent put him into a small room in the presale venue after his visit to the show-flat, and then kept on bombarding him to buy the property, including using misleading information. At the end, he filed a complaint to the CC. More than half of the interviewees who had visited presale venues in recent years found that no price lists were given in the presales and brochures were offered only at the end of the visit. More examples can be found in Appendix I.

Nearly all interviewees agreed that the unethical practices had been damaging the well-being of the forward property market. If the bad practices carried on, a cooling-off period should be introduced. Similar to the practice being used in the insurance industry, a cooling-off period should allow presale property buyers to void the contract within 7 days after signing it. To make the monitoring effective, most of the interviewees shared the view that the self-regulatory guidelines set up by REDA must be made mandatory

through legislation. If all developers are willing to adhere to the guidelines, there is no reason why they should reject legislation for the guidelines. Also, the Lands Department should exercise patrol every now and then to monitor the selling behavior of estate agents and developers.

Based on the above discussions, it is recommended that

- the self-regulatory guidelines set up by REDA must be made mandatory through legislation;
- the Lands Department must exercise patrol to monitor the selling behavior of agents and developers and penalties must be exercised when wrong-doing is found;
- a cooling-off period, like what is practiced in the insurance industry, is necessary;
- more education is needed for consumers, in particular, the preparation they need to do before visiting presale venues and making decisions about purchases.

7.4.2 Role of the Government, REDA, CC and EAA

The Government **-** More than half of the interviewees agreed that the Government tended to favor developers in policy-making and had not been fully committed to enforcing the measures to protect presale property buyers because it relied on the income generated from the land sales for Government spending and also relied on developers to maintain the prosperity of the economy. Some interviewees found that most of the terms contained in the ASP are for the benefit of developers. For example, there are terms to allow changes made by developers in certain circumstances, but these leave no room to allow buyers to make any change. Most interviewees, including the professionals and the

pressure groups, shared the view that the balance of interest between developers and presale property buyers has been upset.

Regarding the provision of presale information, although it was believed that there were many hidden delays, no formal statistics have been published to the public to reveal the situation. Regarding defects and mismatch of building fittings and features, most interviewees commented that they did not know whether the impact of the risks was serious or not because there was only piecemeal news found in newspapers. Regarding the exaggeration of the floor areas, three out of the four interviewees from the consumer group did not know about the proposal made by the HKIS. Regarding the guidelines set up by the REDA, there was no easy channel available for the public to access the guidelines. To summarize, the interviewees considered that there was no proper channel to disseminate the information and statistics relating to presale properties. The news published in newspapers relating to presales was often piecemeal.

According to the interviewees, the first thing that the Government needs to do is to align the measurement of floor area. The second is to observe the recent practices of presales and monitor the selling behavior. There are rules contained in the Consent Scheme and it is the duty of the Government and the Lands Department to monitor the market and to check if the requirements are being adhered to. The Lands Department should give a clear message that if unethical presale behavior is found, corresponding punishment will be enforced. The Government should also set up a designated website for public access to publish not only the figures submitted by developers on the presale units sold and the

transaction prices, but also the related information like details of the Consent Scheme, the REDA's presale guidelines, and the presale pamphlet issued by the CC and EAA. Channels and procedures to make complaints should also be offered on the web. Furthermore, the Government should promote public awareness on the website.

Based on the above discussions and comments collected from the interviewees, it is recommended that the Government should:

- enforce the self-regulatory guidelines through legislation;
- monitor whether the market players (REDA and EAA) are adhering to the guidelines;
- impose corresponding penalties if breach of the measures is found, e.g. suspension of Consent given;
- set up a designated website to inform prospective buyers about the presale figures and the necessary information relating to presales of uncompleted properties;
- avoid making inconsistent policies like the Joint Notes to promote a green environment which has exacerbated the exaggeration of floor area;
- avoid making measures which will upset the balance of interest between developers and presale property buyers.

Role of the REDA – The REDA considered that the self-regulatory system had been functioning effectively and it had provided relevant guidelines for the members in conducting property presales in a consistent manner. The Compliance Committee had also been set up within the REDA to investigate any reported non-compliance complaints, and penalties will be exercised if non-compliance is found. However, most interviewees

found that the self-regulatory system had little effect in deterring the unscrupulous presale tactics.

To make the monitoring effective, most interviewees shared the view that the guidelines had to be made mandatory through legislations and that they have to be accessible by the public. If all developers are willing to adhere to the guidelines, there is no reason why they should reject their being legislated. An independent complaints section with clearly-defined procedures should be set up to investigate any complaints and appropriate penalties have to be imposed if any wrong-doing is found.

Based on the above discussions, it is recommended that

- the self-regulatory guidelines must be made mandatory through legislations,
- an independent complaint section with clearly-defined procedure should be set up to study the complaints and appropriate penalties imposed if wrong-doing is found,
- a designated website should be set up by REDA for access to the guidelines.

Role of the EAA – Most interviewees agreed that many presale problems are related to the role played by estate agents. Since developers pass the responsibility to the agents to deal with prospective buyers, the information given by the agents, who act as information providers on the front-line, has to be accurate. It is not uncommon that agents use misleading information to boost the prices and pressurize potential buyers to push up the number of presales in order to generate a higher commission. According to the

information from the EAA, disciplinary actions had been imposed on over 100 agents[32] from 2006 to mid-2007.

Interviewees expressed the belief that buying a property involves a lot of professional issues of which ordinary people might not be aware, and that agents have to act in their utmost good faith to their clients. If they act only as salespersons representing the developers, they should make this clear. As some interviewees said, estate agents should be equipped with the knowledge required of a professional, and "ignorance" is of no defense in making mistakes. It was also suggested that a fund should be set up by the EAA for compensating any possible losses arising from the negligence and wrong-doings of estate agents. However, the proposal is considered to be a complex issue which need to be discussed in detail before being put into action in regard to how the contribution will be made, who will oversee the fund, under what circumstances compensation will be released from the fund and, more importantly, whether the practitioners will turn out to be more relaxed in upholding their professionalism because of the compensation of the fund.

Based on the above discussions, it is recommended that the role of estate agents must be clarified:

- if the agents play a role to represent the developers by accepting a commission from the developers, then they must act on behalf of the developers and declare this to the

[32] The data which has not been published for scrutiny by public was collected from the interview conducted with the Chief Executive of the CC on 27 July 2007.

buyers. The developers, being clients of the agents, should be held liable for any inaccurate information released by the agents;

- if they represent the buyers by accepting a commission from the buyers, then they must act in their utmost good faith to the buyers and advise them all the issues they need to know before the purchase;
- a fund should be set up to cover professional indemnity for compensating the loss due to negligence and wrong-doings of estate agents should be set up;
- EAA should monitor their agents to ensure that the code of practice to be observed properly;
- measures should be taken by the Government to monitor the conduct of presales of agents.

Role of the CC **-** According to the Chief Executive of the CC, the role of the CC is to look after the benefits of consumers. It is not a regulator but a monitoring institution overseeing the operations of the market. It aims to enhance the protection of consumers within the legal framework. It meets the concerned parties every now and then to reflect the complaints made by the public and to look for remedial actions. In the presale property market, the CC has taken several measures to educate consumers in order to enhance their awareness of their rights and the issues relating to the presales, e.g. distribution of the leaflets. It has also published books and magazines to inform consumers about the issues ranging from buying a property to conducting renovation work. The CC also makes use of the mass media to inform the public about some special

events happening. Regarding the lead taken by the CC to help consumers claim compensation from the developers, most interviewees welcomed the actions.

Despite the above measures taken by the CC, many interviewees agreed that consumers still suffer from the lack of access to the information and statistics relating to presales of properties. They considered that the most effective way to educate consumers is through mass media rather than seminars or discussion forums. Whenever there is mal-practice, the CC should stand out to share the case with the public. For example, in the recent dispute regarding the measurement of the ceiling-height of Royal Jubilee, some interviewees felt it was a pity that the CC just wrapped up the case by saying that "no further comment would be made since a compromise had been reached between the parties concerned". The CC had not shared with the public what had been learned from the incident. The incident also serves as evidence that developers are (in general) not willing to make compensation to individual buyers. They will come to the negotiation table only when pressure groups such as the CC are involved. Unfortunately, the CC could help only selectively due to the limited resources available.

Regarding the complaints relating to presale properties, many interviewees expressed that it will be desirable to have the CC to set up a designated web-page to show the statistics for public access. For complaints that have not been verified, general statistics without details of the developers and buyers can be shown. For those verified complaints, details of the cases should be disclosed to the public, thus alerting them to the possible disputes that might arise from buying presale properties. Without a proper channel to get access

to the necessary information, prospective buyers will have no idea of the extent of the hidden presale risks exposed to them in the market. Buyers can protect their own rights only if they possess the necessary information.

Based on the above discussions, it is recommended

- to centralize the statistics and information relating to presales of uncompleted properties on a designated web-page under the website of CC for access by the public;
- to set up an interlink on the designated web-page to direct consumers to locate other necessary information, for example, the Consent Scheme under the Lands Department and the practice codes provided by the EAA;
- to carry out more programmes through the use of mass media to educate consumers about the possible risks that may be encountered in property presales;
- to promote the dissemination of new guidelines and measures.

7.4.3 Personal preferences

Of the ten interviewees, eight had bought presale properties; and their personal preferences about presale properties are discussed below.

Interviewees who bought their presale properties in recent years - Of the ten interviewees, four had bought presale properties in the previous five years from either the upper-market and middle-income market. Those who had bought presale properties in the upper-market were happy with their purchases. The quality of the properties was found to be good despite some minor defects. However, two purchases of the presale

properties from the middle-income market had turned out to be very unpleasant with the following complaints:

- delayed delivery without explanation
- misleading information from the agents
- no price list for any of the units available for the presales

Whether interviewees would buy presale properties from the recent market - When asked if the interviewees would consider buying presale properties in the future, eight of them expressed that they would not consider buying any presale properties in the recent property presale market because

- presales tactics are not ethical, no price list is offered for prospective buyers before presales and thus price comparison is not possible;
- prices change vigorously; a big price difference may be found between the first and second batches of presales of the same housing estate;
- there are problems of asymmetric information in the presale property market and buyers lack bargaining/negotiation power;
- the quality of the presale properties is uncertain and the show-flats look too grand and attractive to be true;
- prices of presale properties are marked up very high compared to spot properties in the second-hand market;
- IFAs of presale properties may turn out to be much smaller than expected;
- there are many choices of spot properties in the second-hand market.

Despite saying these things, the majority of the interviewees expressed that they might consider buying presale properties if

- a very handsome discount of, say more than 10%, is offered;
- the presale practices are improved.

Regarding the choice of developers, most interviewees who had chosen properties developed by reputable developers were happy with their purchases. However, some interviewees found that "large" was not the same as "reputable". Some large developers had not produced quality work. All of the interviewees expressed that the choice of a reputable and reliable developer would be an important consideration when making future purchases.

Regarding the prices imposed on presale property prices, most interviewees expressed that they are willing to pay a price at the top of the range to get the desired attributes. However, they will not consider buying presale properties if the prices have been marked up highly compared to similar properties available in the second-hand market.

7.5 Factors Critical for the Development of Forward Property Market

Through the review of the Hong Kong forward property market and the information gathered from the policy analysis, the effectiveness of the regulatory system for property presales has been evaluated and the feasibility of the proposed policy options has also been examined. Apart from these, important insights can also be drawn from the study to

identify the set of factors considered to be critical to the development of a forward property market. They include:

Property as a desirable investment asset - A forward property market will be enhanced only if investors consider property as a safe and promising asset which can generate stable income with capital growth. In Hong Kong, property has been considered a safe investment which generates reliable incomes with capital growth, and thus it has been a popular investment alternative. These have made presales of uncompleted properties, as substitutes of spot properties, popular in Hong Kong, in particular, when the market is booming.

A favourable macro-economic environment – The development of a forward market will need a strong economy to support it. A number of macro-economic factors has promoted the strong demand for properties in Hong Kong in the past two decades, despite the up-and-down cyclical movements over the years. These have included the continued growth of the population, the foreign capital influx and the home-ownership policy promoted by the government. Despite the Asian Economic Turmoil in 1997, there was a robust recovery of the economy from 2004 to 2006 because of the strong trade and financial industry growth. The economy picked up again with an impressive increase in GDP of 7.3% in 2005, and hence so did the sales of spot properties and the presales of uncompleted properties.

A well-developed financial system - Hong Kong has a well-established financial system to support building project finance through, for example the issue of debts, bonds and/or securitization of investment assets. To ensure that the developer must be able to meet the construction expenses, two methods of financing the outstanding construction costs are accepted by the Government. These are building mortgage and/or bank undertaking. Both methods must be undertaken by either a licensed bank or registered deposit-taking company to guarantee completion of the development. For the buyers, equitable mortgage has been popular for financing the purchase of a presale property. The Hong Kong Mortgage Corporation was established in 2000, not only to facilitate the mortgage business in the spot market, but also to include equitable mortgages of uncompleted properties in their investment portfolios. The liquidity of the market is important in facilitating the purchases of presale properties.

Standardization of presale procedures - The procedures for trading presale properties and the practices of conducting the presales have been standardized in the Consent Scheme in Hong Kong in order to enhance the transaction. The standardized ASPs for pre-selling uncompleted properties are able to safeguard the rights of both the buyers and sellers. The formation of the sample equitable mortgage contract has also facilitated the financing matters relating to property presales. With all these measures, the operation of the forward property market in Hong Kong has been streamlined and confusion could be, to a certain extent, avoided.

A well-developed legal system – A good legal system is also mandatory for the success of a forward property market. Hong Kong offers a sound legal system with a corruption-free environment to protect property investors' interests. This includes strong foreclosure laws, the availability of recourse lending, and tight underwriting standards relating to transacting presale properties. The formation of equitable mortgage has also standardised the procedure for financing a purchase of a presale property and safeguards the rights of the market players through legal protection. Although there is room for improvement in the regulatory system for property presales in Hong Kong in which developers are able to take advantage by using the grey areas, the overall legal system in Hong Kong is sound in protecting the property rights of investors.

Transparency of the forward property market - Transparency of the forward property market is of utmost importance to facilitate the effective valuation of presale property investments. The mandatory disclosure of information required in the Consent Scheme and the voluntary self-regulatory measures taken by the REDA, to a certain extent, allow presale properties to be traded effectively in Hong Kong. Investors' awareness of the presale risks, both expected and hidden, relating to their affordability is also enhanced through educational activities taken by CC and EAA. Yet, it has been shown from this study that there is still room for improvement in enhancing the transparency of the property presales in Hong Kong and for deterring the hidden presale risks arising from the asymmetric information. As many interviewees said, the well-being of the forward property market depends very much on the transparency of the market.

Commitment of the Government and the market players - Commitment of the Government to protect presale property buyers is of utmost importance for the development of a forward property market. In Hong Kong, apart from the administrative measures, the Government meets regularly with the parties concerned, which include REDA, CC and EAA, to monitor the presale system and solicits views from the public. However, the guidelines set by REDA and EAA are on a voluntary basis only with no legal binding. There are also hindrances in exercising the presale policies which have been discussed in Chapter 4. The effectiveness of a policy very much depends on the commitment of the policy-makers and the market players.

7.6 Summary

Based on the views collected from the face-to-face interviews, this chapter has presented the policy arguments on the current presale measures and the proposed alternatives of the interviewees representing the unique interests of the different stakeholders in the forward property market. The recommendations for policy change have been drawn and are summarized in Table 7.5.

Table 7.5 Recommendations for the preferred policies

Hidden Forward Risks on Presale Properties
To deter developer's default risk on developments - The existing measures seem adequate to deter development default
To deter delay in completion - To make it mandatory in the Consent Scheme that the developer has to state the reasons for the delay and the calculation of the extended period
To deter high building defects - To extend the period allowed to rectify building defects in the Consent Scheme to 1.5 years - To make compensation to the buyers on the financial loss incurred if the property cannot be occupied during the rectification works being carried out - Further discussion is needed on the use of retention money
To deter exaggeration of saleable areas - To standardize GFA, SFA and IFA and to include them in the Consent Scheme for measurement of floor areas of presale properties - To define the calculation of GFA, the way to apportion the common areas into the GFA must be listed in presale brochures - To define the calculation of SFA, all the elements to be included in the calculation must be listed in presale brochures - To include the IFA in the Consent Scheme based on the carpeted floor areas and allow an adjustment of up to 5% tolerance to cover any deviation on the thickness of the walls caused by different workmanship
To deter features mismatch upon completion - To attach the presale brochure to the ASP as part of the contract - To refine the format and terms contained in presale brochures and to make them plain and easily comprehended by ordinary consumers - To control the terms used in presale brochures, advertisements and commercials which should contain only facts that can be realized
To deter unethical presale tactics - To make the self-regulatory guidelines mandatory through legislation - To set up an independent organization to oversee the self-regulation system - To introduce a cooling-off period of 7 days
Role of the Government
- To set up an independent organization comprising members from different interest groups to oversee the presale system and monitor the performances of the market players including the REDA and the EAA - To impose corresponding penalties if breach of the measures is found, e.g. withdrawal of Consent and suspension of future application - To set up a designated website to inform buyers about the presale figures and the necessary information relating to presales of uncompleted properties - To avoid favoring developers in policy-making

Role of the REDA
- To include members representing different stakeholders' interests in the self-regulatory system through coordination with the Government - To set up an independent complaint section with clearly-defined procedures for investigating the complaints with appropriate penalties imposed - To set up a designated website for the public to get access to the guidelines
Role of the EAA
- To clarify the roles of the agents, i.e. whether they are representing the developer, or the buyer, or both; so that their scope of duties and responsibilities to be clarified - To monitor agent members to ensure that the code of practice is followed and, if not, effective penalty must be imposed - Further discussion is needed on the set up of a fund to cover professional indemnity of estate agents
Role of the CC
- To centralize the statistics and information relating to property presale in a designated website for scrutiny by the public - To set up interlinks under the designated website to direct consumers to locate the relevant documents published by other settings for public reference - To carry out more programmes through the use of mass media to educate consumers about hidden presale risks embedded in property presales - To organize more promotions when new guidelines and new definitions of the measures are introduced relating to presale properties

The findings reveal that developers tend to restrict the information to the buyers in presales of uncompleted properties with an attempt to boost the prices and the number of presales. Most interviewees commented that they would not consider buying presale properties in the current forward property market because of the lack of transparency and the presence of the hidden presale risks. Regarding the choice of developers, all of the interviewees expressed that the choice of a reputable and reliable developer will be an important consideration in their future purchases. However, the information available for assessing the performance of developers is only piecemeal.

Important insights have also been gathered to draw the set of factors which are considered critical to the development of a forward property market. They include:

- property as a desirable investment asset
- a favourable macro-economic environment
- a well-developed financial system
- standardization of presale procedures
- a well-developed legal system
- transparency of the forward property market
- commitment of the Government and the market players

The findings lay down important references for the development of a forward property market, in particular, for those countries in which the regulatory system for presales of uncompleted properties is yet to develop.

CHAPTER 8 CONCLUSION

This Chapter concludes the findings of this research. The contributions and limitations of the research are considered. Further researches in areas related to the pricing of presale properties are also recommended.

8.1 Introduction

Forward contracts have become increasingly popular in many countries. They are used to pre-sell uncompleted properties in order to enhance the project finance and transfer of risks in the real estate market. However, it has been revealed that forward property markets suffer from the hidden presale risks arising from asymmetric information inherent in the markets and there have been outcries from the public for reforms.

This study was conducted to identify the specific presale risks, including both expected and hidden, and examine how they affect the pricing characteristics of presale properties compared to spot properties in which the presale risks are not present. The expected risks include the additional market risk and the capital finance risk that presale property buyers have to bear during the construction time-lag. The hidden risks include the quality of the property being overstated in the presale promotion, the floor area may have been exaggerated, and even that the developer may default after collecting the proceeds. This group of presale risks tends to be systematically under-estimated by the buyers when the purchases are made. When presale property buyers make their purchases, very often,

they are attracted by the fabulous descriptions shown in the presale brochures about the attributes of the properties and the unique features promoted by the developers and the estate agents. Although the hidden presale risks are present, buyers are often driven by their desire for the property and thus overlook the possible problems of the purchase arising from the hidden presale risks. Since the probability of whether these problems would happen on their purchases are unknown to the buyers and they are overwhelmed by their desire on the purchases, they therefore tend to under-estimate the hidden risks and overprice the presale units.

Hong Kong has been a pioneer in using forward contracts to pre-sell large-scale housing developments since the 1950s and a large quantity of data are available for research relating to presale properties. With reference to the development of the forward property market in Hong Kong, the research objective of understanding the pricing mechanism of presale properties with the presence of asymmetric information has been achieved. The issues raised in the analytical framework presented in Chapter 3 have also been addressed to fill the knowledge gap which are listed as follows:

- It has provided a better understanding of the hidden presale risks that arise from asymmetric information inherent in a forward property market.
- It has examined the presale policies and explored the roots of the problems which undermine the effectiveness of these policies in minimizing the hidden presale risks.
- It has offered a forward property price index using the Forward Property Repeat Sales (FPRS) Model which has been found to be more efficient than the other models in

reflecting the general price change of presale properties in the forward property market.

- It has introduced a new model, the Forward Spot Index Tracking (FSIT) Model, which is capable of pricing presale properties, taking into consideration the hidden presale risks that would not otherwise be considered when pricing spot properties.
- It has evaluated the current and proposed policies and recommended the preferred policies which can help enhance the transparency of information in the market and promote fair-pricing of presale properties.
- It has identified the set of factors which are considered critical to the development of a forward property market.

8.2 Major Findings and Conclusions

The research has presented the risk-transfer mechanism embedded in a forward property contract to show how developers can use presales to transfer part of their project risks to the buyers, namely the market risk and the capital finance risk during the construction time-lag. In addition, the findings reveal that developers are able to acquire a wealth transfer from presale property buyers to themselves by taking the advantage of asymmetric information inherent in the forward property market.

To achieve the objective of understanding the pricing mechanism of presale properties given the presence of asymmetric information inherent in forward property markets, the study was undertaken in four phases (see Figure 3.8). First, a comprehensive review of the forward property markets in different countries was carried out. Second, an

examination of the regulatory system of the Hong Kong forward property market through problem structuring. Third, models construction for pricing presale properties. Fourth, policy analysis by use of interview survey was conducted. The major findings are presented as follows.

8.2.1 Review of the forward property markets

The review of the forward property markets shows that forward property contracts have helped many developers reduce heavy bank loans and to shift the market risk of the uncompleted properties to the buyers. For presale property buyers, apart from the additional market risk and the capital finance risk transferred from the developers during the construction time-lag, there is also the group of hidden presale risks arising from asymmetric information inherent in the market. The hidden presale risks include development default, delayed delivery of the properties, high building defects, housing features mismatch, exaggeration of floor areas and the use of unethical presale tactics (see Chapter 2 and 3).

A review of the regulatory system introduced by the Hong Kong Government to deter the hidden presale risks was also conducted. The review found that presale property buyers have received certain protection against unscrupulous developers who might walk off with the proceeds collected since the introduction of the regulatory system in the 1960s namely the Consent Scheme. It also established in Hong Kong a standard acceptable form of contract for the presale of uncompleted properties. However, later incidents have shown that the hidden presale risks cannot be eliminated totally by the regulatory system

in force. Developers are still able to capitalize upon grey areas to make a transfer of wealth from presale property buyers to themselves.

8.2.2 Problem structuring in forward property markets

An examination of the Hong Kong forward property market was carried out through problem structuring (see Chapter 4). The findings show that the hidden presale risks lead to substantive problems which have undermined the effectiveness of the presale policies in place. The roots of the problems are:

i. the pseudo objectives pursued by the Government in its policies,
ii. impact of the other policies pursued has perverted to the wish of the presale policies undertaken,
iii. inconsistent presale policies being used,
iv. presale policies with no enforcing power, and
v. inadequate consumer education and access to information relating to presale properties

8.2.3 Presale property pricing models

Empirical studies were carried out to quantify the impact of the presale risks, both the expected and the hidden, inherent in the pricing of presale properties. The findings show that buyers expressed willingness to pay a premium on purchases of presale properties for hedging against the expected price appreciation (see Chapter 5). Furthermore, the findings indicate that developers are able to acquire a wealth transfer from presale

property buyers to themselves on the pricing of presale properties, taking advantage of the asymmetric information inherent in the forward property market (see Chapter 6).

Construction of presale property price index – It has been suggested that presale property buyers are willing to pay a premium for hedging against the anticipated price appreciation. This is particularly the case where a shortage of properties in the spot market is expected. To explore how the additional presale risks affect the general price movement of presale properties compared to that of the spot properties, a new FPRS Model was developed. It used forward-spot (repeat) pair-sales of the properties available in Hong Kong for constructing the forward property price index.

The FPRS Index was compared with the spot property price indices commonly used in the market, being scaled to 100 at the 1st quarter of 1993. The findings show that the pricing of presale properties in the forward market reconciled with that of the spot properties in general in reflecting the overall market risks. Yet, the spot price indices were found to be falling slightly behind the FPRS Index in some years when the market was in a boom or showed signs of revitalizing, at average rates ranging from 6% to as high as 9% for the selected data set under study. This finding agrees with the proposition made by Yang (2001), that buyers have paid a premium on presale properties compared to spot properties in anticipation of price appreciation when the spot market has been in a boom and experiencing a shortage of supply. The FPRS Model was also found to be more efficient than the other models in reflecting the general price trend of the forward property market.

Construction of presale property pricing model – Encompassing the Hedonic Pricing Model and the Repeat Sales Price Model, the FSIT Model was developed to investigate whether a higher price has been imposed by developers upon the pricing mechanism of presale properties by taking advantage of asymmetric information which is not present in the spot market. The results from the validation of the FSIT Model shows that an extra amount, on average about 5% of the presale prices, was found in the presales of the uncompleted properties of the selected housing estates. This supports the proposition that developers could have charged a higher price in the presales compared to that of the spot sales in which no hidden presale risks were present. This is a valuable finding to property practitioners, showing the extent of the extra amount that buyers might have paid in the presales in order to get the properties that they desired from the forward property market.

8.2.4 Policy analysis of property presales

Face-to-face interviews were carried out with notable people representing the interests of different stakeholders in the community to evaluate the presale policies (see Chapter 7). A majority of the interviewees commented that transparency of the information in buying and selling presale properties was low. Developers tended to restrict the information to buyers with an attempt to boost the prices and the numbers of presales. They also commented that prices of presale properties had been marked up significantly higher than similar properties available in the spot market. A set of recommended policies that help

deter the hidden presale risks was also identified through the policy analysis (see Table 7.5).

Important insights have also been drawn from the study to identify the set of factors which are considered critical to the development of a forward property market. These include property being considered as a desirable investment asset; provision of a favourable macro-economic environment, a well-developed financial system, a well-developed legal system and a standardized presale system; transparency of the forward property market and the commitment of the government and the market players.

8.3 Policy Recommendations

The findings from the policy analysis have proposed a set of recommendations which lead to important policy implication. The recommendations for policy change that can enhance the transparency of information in the market and promote fair-pricing of presale properties are summarized as follows (see Chapter 7).

To deter delay in completion **-** It is suggested to make it mandatory in the Consent Scheme for the developer to state the reason for delay and the calculation of the extended period.

To deter high building defects **-** It is suggested to extend the warranty period for rectifying building defects in the Consent Scheme to 1.5 years and to make compensation

to the buyers for the financial loss incurred if the property cannot be occupied during the course of rectification work.

To deter exaggeration of saleable areas - It is suggested to standardize the definitions as well as the calculations of GFA, SFA and IFA and to include them in the Consent Scheme for the measurement of floor areas of presale properties; and to include the IFA in the Consent Scheme based on the carpeted floor areas and allow an adjustment of up to 5% tolerance to cover any deviations in the thickness of the walls due to different workmanship.

To deter features mismatch upon completion - It is suggested to attach the presale brochure to the ASP as part of the contract and to control the terms used in presale brochures, advertisements and commercials which should only contain facts that can be realized.

To deter unethical presale tactics – It is suggested to make the self-regulatory guidelines mandatory through legislation and to set up an independent organization to oversee the self-regulation system. A cooling-off period of 7 days is also recommended.

8.4 Significance of the Research

This research has initiated a holistic approach to examining the forward property market in Hong Kong. It has included a study of the pricing of presale properties and the regulatory system affecting the conduct of the presales. Armed with empirical results,

this research not only provides significant insights into the risk-return relationship in presales of uncompleted properties, but is also the first of its kind to provide a comprehensive pricing framework for presale properties with the hidden presale risks arising from asymmetric information. This study also greatly facilitates investment decisions involving trading of presale properties.

The FPRS Model developed for the construction of a forward property price index can reflect the general price change of presale properties effectively. The FSIT Model for pricing presale property has also taken into consideration the hidden presale risks which are not present in spot property pricing. The findings of the extra risk premium paid by buyers on the purchases of presale properties in anticipation of price appreciation when the market was in a boom and the wealth transfer from the buyers to the developers through the presale of uncompleted properties provide important implications for financial institutions including bankers, underwriters and investors regarding the strategic factors affecting the pricing of a presale property.

An approach to conducting policy analysis was also developed to look into the problems that undermine the operation of the regulatory system and a set of preferred policies has been recommended for enhancing the transparency of information and promoting fair-pricing in the market. These recommendations provide important insights to governments, developers and other market players about the administration and regulatory systems adopted for presales of uncompleted properties and on the

arrangement of a forward property contract. The set of factors considered critical to the development of a forward property market has also been identified.

8.5 Limitations of the Study

The major difficulty encountered in the course of the research was the absence of a centralized government/institutional database for collecting relevant information relating to presale properties in Hong Kong. Materials relating to presales of uncompleted properties for public scrutiny are scattered and limited. There are hardly any databases to collate the complaints for reference of the public and only piecemeal reports have been prepared by different institutions. Furthermore, it is impossible to collect the data on the payment arrangements of all the transacted presale units, therefore, this study has to assume that all presale units are purchased at the recorded transaction prices with full payment settled in advance when the purchases are made.

The study has made the first attempt to develop the FSIT Model for pricing presale properties taking into consideration the hidden presale risks in totality embedded in the forward property market. However, the impact of the individual hidden presale risks in isolation imposed on the presale prices has not been evaluated. It was shown from the interview survey that the hidden presale risks perceived by the interviewees, ranked in descending order of seriousness, are unethical presales tactics, exaggeration of floor areas, feature mismatch, building defects, delayed delivery and development default. The investigation of the extent of the impact from each of the individual hidden presale risks

imposed on the pricing of presale properties is certainly a topic for future theoretical and empirical research.

Furthermore, the empirical studies of this research were confined to the Hong Kong forward property market. The research has yet to study whether such pricing mechanism developed can be applied in other countries with different economic and socio-cultural backgrounds.

8.6 Recommendations for Further Research

The FSIT Model for the pricing of presale properties has been limited to investigating the impact of the hidden presale risks as a group imposed on the pricing of presale properties. To improve the understanding of factors with dominant effects on the pricing of presale properties, the FSIT Model should be refined further to gauge the impact of individual hidden presale risks. Appropriate control, therefore, can be placed on those risks which are found to have more prominent effects on pricing. Further studies should be carried out to explore how the FPRS and FSIT Models can be applied in the forward property markets in other countries, taking into account the different economic environments and finance systems within these countries.

Furthermore, the study by use of the FSIT Model covering the period from 1993 to 2005 has revealed that a wealth transfer averaged at an extra amount of 5% of the presale prices from buyers to developers was imposed on trading of the presale properties . However, this 5% extra amount represents only the average amount of the wealth transfer

covering the period from 1993 to 2005 on presales of uncompleted properties. As noted in the research, there have been changes of presale property policies during the study period (see Appendix IX) which might have affected the extent of the wealth transfer. Further research can be carried out to investigate the extent of responsiveness of the wealth transfer to the specific changes introduced in the presale policies.

Policy analysis, together with an interview survey, was used to collect views from representatives of different stakeholders in the community for evaluating the effectiveness of the forward property market in Hong Kong. Note that this analysis plays only a part of the policy-making process which helps generate the policy-relevant knowledge in regard to the roots of the problems inherent in the regulatory system and the preferred policy options available. Given the time constraint, only a smaller number of interviews with notable members from the community were carried out. Although their views are widely considered representative and insightful, the study should be extended to cover more presale property buyers and go through a wider-spectrum of discussion by the public before implementation.

APPENDIX I

PRESALE PROPERTIES COMPLAINTS 2003-2007

Although the impact of the hidden presale risks arising from asymmetric information relating to presale properties are apparent, however, the data and information are scattered. Even worse, both developers and presale property buyers tend not to address the problems arising from the risks publicly fearing that they will hit the properties' resale value. Therefore, only piecemeal information is found from various publications and from the Consumer Council. There is hardly any centralized database keeping a complete record in regard to the problems lodged on presales of properties for access of the public. Following are some of the prominent complaints filed by presale property buyers gathered from various sources during 2003 to 2007.

Development Default

Next Magazine, 29 May 2003; South China Morning Post, various issues in April and May 2003
Two development projects were sent to receivership when the presale deposits lodged at the solicitor were found withdrawn by the developer through fraudulent means. Although the projects were rescued by another investor afterwards, the buyers were unsatisfied with the poor quality and the interior decoration was found to be far from what had been promised in the presales.

Delayed Delivery

Ming Pao, 14 August 2007
The suffered buyers bought the properties of Caribbean Coast located in Lantau Island and the delivery was delayed for more than 3 months. The developer denied compensation and the buyer bought the case to the court. The case was under legal proceeding when this study was undertaken.

Interview with Miss Winnie Cheung, 3 July 2007
The buyers bought the properties of The Apex located in Tsuen Wan in early 2006 and the deliveries were supposed to be completed on 30 June 2007. However, the buyers were informed by the developer and the AP separately in mid-2006 that the revised completion date approved by the Lands Department had been extended. However, there was nothing mentioned in the two letters on the cause of the delay, nor how the extended period was calculated. Furthermore, the extension period shown in the 2 letters from the developer and the AP respectively were different, one for a period of 3 months whereas the other 67 days.

Apple Daily, 23 September 2005
The suffered buyers bought the properties of One Beacon Hill located in Kowloon Tong and the delivery was delayed from 5 to 7 months due to the unlawful felling of the trees in the surrounding areas without the consent of the Lands Department. The developer denied compensation and the buyers sought help from the CC. The CC took the case to the court which was still under legal proceeding when the study was undertaken.

Next Magazine, 4 November 2004
The hand-over of Banyan Garden located in West Kowloon had been delayed without compensation despite that OP had been issued. It was because the Certificate of Compliance had not been released yet since the bridge linking the estate to the main road promised to be built by the developer under the Lease was still under construction.

Apple Daily, 1 July 2004
The suffered presale property buyers of Bayshore Apartments located in Aberdeen won the lawsuit and received the compensation from the developer on the delay of delivery of the properties upon completion.

High building defeats

Next Magazine, 4 January 2007
When presale buyers collected their properties at Chelsea Court and One Beacon Hill, they found that the ceilings, wall panels and flooring were uneven, and there were lots of scratches on the glass panels. However, the developers, the contractors and the management companies took up the rectifications works in a very slack manner.

Apple Daily, 18 October 2006
A presale property buyer of a property located in Tsuen Wan could not move into the unit more than a year after the delivery notice had been released because of the rectification works. They included leaking water which damaged the tiles of the property, improper sliding door for the balcony and others. Only after the buyer sent a warning from his lawyer to the developer, then the developer speeded up the rectification works.

Next Magazine, 18 November 2004
Water leaking kept happening after the presale property buyer collected its property located in Ma On Shan upon completion. However, the property management company and the developer denied the responsibility.

Next Magazine, 4 November 2004
A renowned property inspector witnessed that when the presale property buyer came to collect his flat, the buyer cried out and then wept because of the poor quality of the unit he bought from the presale, which included uneven flooring and poor plastering, window with more than 50 cracks, curved wall paneling, wooden floor panel with cracky noises, water leaking in the bathroom.

Next Magazine, 30 September 2004
The presale property buyer of a property located in Yuen Long found that the cable-duct was blocked after the rectification was carried out which affected the placement of the electrical and antenna cables. However, the developer denied the responsibility.

Next Magazine, 3 July 2003
A buyer of Laguna Verde located in Hunghom found there was water leaking in the toilets a few months after collecting the property. The developer denied the responsibility and claimed that the warranty period had expired. The buyer took the case to the Tribunal and won the case as well as the compensation after more than a year's legal proceedings. But the buyer expressed that it was exhaustive in going through the legal proceedings in terms of money, time and energy.

Apple Daily, 9 January 2003
Buyers of a housing estate located in Tuen Mun found that the properties had water leaking when they collected the properties upon completion. However, the developer just made some superficial works without curing the root of the problem. And then the developer denied their responsibility after expiry of the half-a-year warranty.

Features/descriptions mismatch

Hong Kong Business News, 5 June 2007
In the presales of Royal Jubilee located in Tsimshatsui, it was stated in the presale brochure that the ceiling-height of the flat would be 9 ft 7 in so that it would provide a spacious feeling to the residents. However, it turned out to be only 8 ft 10 in. When the buyers made the complaint, the developer asked the buyers to refer to the small prints written at the back-page of the presale brochure that the measurement, 9 ft 7 in indicated, was of "Floor to floor height". Therefore, excluding the thickness of the concrete flooring between the upper and lower floors, the ceiling-height was reduced from 9 ft 7 in to 8 ft 10 in. The developer denied compensation and the CC stepped in and brought the case to the court. In the end, a deal was made between the buyers and the developer through negotiation by the CC.

Next Magazine, 4 November 2004
A mid-air garden in the middle-floor level of each block was promised in the presale brochure of a housing estate located in Tsimshatsui District, but it was found to be only an ordinary refuge floor when the estate was completed. The developer claimed that it was built in accordance to the requirements of the fire safety measures. In another presale estate developed by the same developer, it was stipulated in the presale brochure of a housing estate as the selling point that the estate was located within the school net of some top schools. However, it was found that these schools, although located in the same district of the estate, they did not share the same school net.

Next Magazine, 21 October 2004
Two blocks of one-bedroom service apartments, located at close proximity with the industrial zones, were sold as if they were residential properties. The developers disguised the one-room units into conventional two- to three-bedroom flats by using glass-fabric for partitioning. The developers also misled prospective buyers in the presale brochures that the units possessed panoramic sea-view. Furthermore, since these apartments were not planned for residential use, recreational facilities like parks and resting areas for the residents were limited. Also, some arrangements were not known to the buyers when the presales were conducted, for example, the facilities like swimming pool had to be shared with visitors/strangers from the hotel next block.

Residents of a housing estate located in a remote district had been promised in the presales that various additional transportation means like shuttle buses and green mini-buses would be in place to link the estate to the main transportation stations upon the completion of the estate. However, the promises had not been realized.

Next Magazine, 9 December 2004
In the presale brochure of a development project, it stipulated that a stone-built climbing wall would be constructed for residents of the estate who liked climbing. However, it was built but without permission granted by the Building Department. At the end, the residents of the estate were ordered to demolish the structure at their own costs.

Next Magazine, 10 April 2003
A buyer bought a pre-sale property which included a private podium detached to the unit. It was stated in the pre-sale brochure that the podium could be used for planting, barbecue and resting. However, the buyer, upon collection of the completed unit, found a number of public pipes, big and small, were laid around the podium and some of them had gone rusted. The buyer demanded to void the ASP but was turned down by the developer.

Exaggeration of floor areas

Next Magazine, 4 January 2007
According to Mr. Jim Chai Nam, a renowned building inspector, in newly-built properties, the expected efficiency ratio is only about 67%, some are as low as 50%. For example, a property in a housing estate located in Tseung Kwan O, the GFA sold is 1200 sq ft, but the internal usable floor area is only 809 sq ft, at an efficiency ratio of only 67%.

Daily Apple, 14 December 2006
Developers tried to make the small-size uncompleted properties look good in size and layout in the sample flats by:
- using magnifier glass window for the fittings
- combining the kitchen and the sitting room to make the room look spacious
- converting the bay-window as part of sleeping place so that a standard-size bed can be placed into the small-size bedroom

- making all the furniture into smaller size to make the rooms look proportional
- converting the balcony as part of the sitting room for placing furniture.
- Setting the height of the sample flat higher than the actual to make the room look spacious

Sing Tao Daily, 18 Marcy 2006
The Vice-President of the Institute of Architects, Mr. Vincent Ng, said that the "green features" introduced in the Joint Practice Notes not only increased the total GFA of the plot allowed by more than 10% comparing to those previously built, it also created negative impact of so-called "wall effect" to the environment. As such, the impact created by the "green features" introduced may not be "green" to the environment at the end.

Next Magazine, 4 November 2004
The SFA of the units of a housing estate located in West Kowloon was stated at 80% of the GFA in the presale brochure, but it turned out to be only 71%. The developer, upon completion of the building, claimed that both the utility platforms for placing air-conditioning and the bay-windows had been included into the calculation of the SFA.

Hong Kong Economic Times, 10 January 2003
The SFA of a property located in Wan Chai was found 81 ft^2 less than that was stated in the presale, at a difference of 35%. The developer denied compensation and the presale property buyer brought the case to the court.

Unethical Presale Tactics

City Daily, 19 March 2007 (Misleading information)
Forty presale buyers of The Apex complained that the agents asked them to sign a yellow paper saying that the paper was treated only as interest of purchase of a unit. However, after signing the paper, they were informed that the yellow paper that they signed in fact was a formal preliminary ASP. Furthermore, they found the price shown in the ASP was about 20% higher than that were told by the agent.

South China Morning Post, 4 November 2006; Hong Kong Economic Times, 6 November 2006 (*Forged sales)*
It was found that property agents had submitted a large number of duplicated cheques as deposits for the purchases, more than 10,000 cheques, in an internal presale, as a ploy to make the properties appeared more popular than they actually were. Developers welcomed this practice as it would create an atmosphere of robust demand, which was conducive to sales. However, to potential buyers, they would be misled by the inflated data and the false market response. Legislative Council housing panel member James To also stated that if the agents told prospective buyers that many people had submitted cheques while knowing many of the cheques would not be cashed, they had given misleading statements.

The Standard, 23 August 2006 (No price list available)
Two leading developers in recent presales breached the internal guidelines by withholding price lists from potential buyers.

Apple Daily, 17 August 2006 (Deposit was demanded for release of price list and misleading information)
The developer of Park Island Oceancrest demanded presale visitors to place a deposit of HK$50,000 before the price list was released. The developer of Le Point asked the presale buyers to sign the ASPs first but without the signature of the developer. On the other hand, the developer kept informing the public that the presales of the estate had not started yet.

Apple Daily, 13 August 2006 (No price list available)
The developer of a development located in Tseung Kwan O requested the presale buyers to sign the preliminary ASP through the so-called "reserved unit registration" without offering the price list as required. Also, the date of signing the agreement was without the signature of the seller, leaving room for the developer to manipulate the conduct of the presales. The event had aroused the attention of the Lands Department.

Apple Daily, 13 July 2006 (Inadequate presale information)
On presales of some housing estates, prospective buyers were only given the information that the agents selectively released. At the end, buyers found that they had paid a price much higher than similar units ranging from 11.89% to as high as 15.11%.

Ming Pao, 5 June 2006 (No price list available)
Some developers provided no comprehensive price lists of their developments in the presales conducted in May 2005. The report aroused the Government's and the public's concern and put in place a self-regulatory system, which came into effect in June 2005. Under the system, the price list and the list of the units on offer in a private sale should be made available to prospective purchasers 24 hours before the sale begins, and the price list of additional units should be made available as soon as possible. Although situations have improved, there are still loopholes in the self-regulatory guidelines set up by REDA which do not serve the purpose of protecting consumers.

Apple Daily, 14 May 2005 (No price list available)
In the presale of a development located in Tsimshatsui, no price list was offered to the two officers who were sent to the site by Lands Bureau pretending to be prospective buyers to inspect the conduct of the presales. The Land Bureau, afterwards, demanded the REDA to exercise a tight overseeing on the practice of presales in accordance to the guidelines.

HKSAR 2005a, 2005b, and 2005c (Misleading presale information)
It was reported that a development located in Tsimshatsui sold at a recorded high price at HK$30,000 per ft^2 was conducted under a tied-sale in which three four-bedroom units were also sold at a discount below the market prices together with the subject unit. The

tied-sale initiated by the developer with the aim to boost the sale prices of the development.

APPENDIX II

SELF-REGULATORY GUIDELINES ON PROPERTY SALES/PRESALES BY REDA, 2005 (REVISED IN 2006)

Provision of Sales Brochures and other Essential Information

1. Sales brochures should be made available to prospective purchasers at least 24 hours before the private sale.
2. Sales brochures should contain essential information in respect of the property offered for sale, including but not limited to the following:
   * Floor area and floor plan
   * Prominent fittings and finishes
   * Location plan drawn to scale
   * Disposition plan
   * Salient conditions of the Government lease
   * Salient provisions of the draft DMC
   * Obligations for slope maintenance if any
   * Anticipated completion date
   * Management fee details
3. A copy of the draft DMC and the Government lease should be provided at the sales office for free inspection by prospective purchasers.
4. An enquiry counter should be set up at the sales office and a hotline be made available to provide information relating to the property being offered for sale.
5. Leaflets on useful information for flat purchasers published by the Consumer Council and/or the Estate Agents Authority should be made available at the sales office.
6. Reasonable steps should be taken to inform purchasers of subsequent material changes with regard to the information provided in the sales brochures.

Provision of Price List

7. The price list and the list of units on offer should be made available at the sales office to prospective purchasers and also through estate agents (if engaged).
8. The price list of the first batch of the units on offer, which should be of a reasonable quantity, should be provided at least 24 hours before the private sale.
9. Should prices be subsequently changed or additional units offered, an updated price list should be provided as soon as possible.

Announcement of Sales Performance

10. Members are free to decide on whether or not to make public the results of their sales. If they choose to publicize, any information provided must be as accurate as possible.

Conduct of Sale

11. Members should ensure that their sales activities are conducted in an orderly manner.

Engagement of Estate Agency

12. Members should specify in their promotional materials the name of any estate agency engaged by them.
13. Clear instructions on sales arrangements must be provided to the engaged estate agency.
14. Appropriate action should be taken against any estate agent (if estate agency is engaged) who is found to have adopted unprofessional sales practices.

Monitoring

15. Random check on the compliance with these Guidelines by members will be conducted by REDA Secretariat.

(Source : REDA – 24 June 2005)

Unfortunately, further incidences happened which hammered the credibility of developers on conducting presales. Therefore, the following items of the guidelines were revised on 25 August 2006:

Provision of Price List

8. The price list of the flats to be offered in first launch (which should not be less than 20 flats or 20% of the total number of flats on offer at the first batch, whichever is the higher) should be provided to potential purchasers at least 24 hours before such flats are put up for sale. (w.e.f. 25 August 2006)
9. For subsequent batches, an up-to-date price list should be made available and posted at the sales office immediately prior to the time when such flats are put up for sale. (w.e.f. 25 August 2006)

(Source : REDA – 26 August 2006)

APPENDIX III

NOTES TO PURCHASERS OF UNCOMPLETED PROPERTIES BY CONSUMER COUNCIL AND ESTATE AGENTS AUTHORITY (2006)

1. **Before the purchase of uncompleted properties:**
   - remember that buying uncompleted flats is different from acquiring completed ones
   - calculate the total expenses of the purchase, such as solicitors' fees, mortgage charges, insurance fees and stamp duty
   - select the appropriate payment method; calculate the amount of the mortgage loan to ensure it is within your repayment ability
   - visit the development site and get to know the surroundings of the property, and check town planning proposals and decisions which may affect the property
   - study the Sales Brochure carefully for details
   - the expected completion date, management fees and find out the salient terms of the
   - Government Lease, terms of the Deed of Mutual Covenant (DMC), etc.
   - have the right to request to read the Government Lease and the DMC free of charge
   - check recent transaction prices of comparable properties for comparison
   - ensure that any important matters explained or guaranteed to you by the developers staff or other persons are written into both the provisional and formal agreements for sale and purchase as part of the contractual terms; or a separate written agreement

2. **Before the appointment of an estate agent to look for a property:**
   - find out whether the estate agent will act on your behalf only, if the agent also acts for the developer, he may not be able to protect your interests in the event of a conflict
   - find out whether any commission is payable to the agent and the amount
   - note that only licensed estate agents or salespersons may accept your appointment. If in doubt, call the Estate Agents Authority on 3102 0838 to make enquiries
   - note that some developers handle sales themselves and you can decide whether to appoint an estate agent

3. **Before the purchase of an uncompleted flat:**
   - seek confirmation from the developer whether a 'Consent to Sell' has been issued
   - note that the developer and estate agent are not allowed to receive any deposit or 'reservation fee' before the developer has obtained the "Consent to Sell'
   - the deposit should be made payable to the stakeholder solicitor of the development
   - understand that your deposit of up to 5% of the property price may be forfeited if you withdraw from the Provisional Agreement for Sale and Purchase

4. **Before engaging a solicitor:**
   - consider engaging your own solicitor to protect your interests, if the solicitor also acts for the developer, he may not be able to protect your interests in the event of a conflict
   - compare the charges of different solicitors

APPENDIX IV

NEWS RELEASE ON THE "SALES DESCRIPTIONS OF UNCOMPLETED RESIDENTIAL PROPERTIES BILL"

BY LAW REFORM COMMISSION, HKSAR, 7 APRIL 2000

"The Bill proposes that developers will be required in future to provide sales brochures regarding the public sale of local uncompleted residential properties, and to provide sufficient and accurate information in sales brochures.

The Bill proposes to require sales brochures to contain floor plans of all typical and non-typical floors. The floor plans should also show the thickness of load bearing walls at the lowest, median and top levels of the building, and the external dimensions of each type of residential properties.

The Bill also proposes to require developers to state the 'saleable area' and the 'gross floor area' of an uncompleted residential property in sales brochures.

The 'gross floor area' of a unit is the proportionate share of the 'gross floor area of the development' approved by the Building Authority. 'Saleable area' refers to the floor area contained within the enclosing walls of a residential unit measured up to the external edge of an enclosing wall or the centre line of a separating wall between two adjoining units.

"The Bill will facilitate purchasers in pursuing contractual remedies for inaccurate information should there be misrepresentation of fact by developers," Mr Wong said. "Purchasers may seek compensation for losses as a result of developers' non-compliance."

In addition, the Bill stipulates specific requirements in respect of sample properties and advertisements relating to the sale of uncompleted properties.

The Bill proposes that Government departments will be empowered to enforce the proposed legislation by investigating alleged breaches.

"The Bill also stipulates penalties for non-compliance. For failure to provide a sales brochure containing information specified in the Bill, a maximum fine of $5 million on conviction upon indictment, or a maximum fine of $100,000 on summary conviction is proposed," Mr Wong added.

APPENDIX V

INDICES OF THE FPRS TIME DUMMIES

Indices generated from the coefficients of the FPRS time dummies

Year	M1 Index	M2 Index	M3 Index
1993Q1	100	100	100
Q2	97.419577	96.995655	99.15053
Q3	143.849151	142.21289	141.9676
Q4	138.356846	136.05554	145.5348
1994Q1	124.968435	122.68305	135.4409
Q2	147.446026	144.12359	160.005
Q3	143.521835	139.43537	163.9167
Q4	147.637388	143.02425	170.7851
1995Q1	135.673625	130.62377	152.7437
Q2	139.064407	133.35719	156.1661
Q3	127.996278	121.92367	139.3413
Q4	126.294842	119.92999	139.5904
1996Q1	137.312752	129.70351	152.5628
Q2	142.073309	133.45178	145.182
Q3	145.630878	136.31715	154.305
Q4	162.975386	151.74632	178.5512
1997Q1	176.14864	163.25986	183.5056
Q2	215.407845	198.55144	236.0709
Q3	235.975783	216.38434	234.1728
Q4	199.094022	181.50246	203.512
1998Q1	171.98705	156.21327	187.4703
Q2	161.658031	146.30013	157.0352
Q3	136.55701	122.97317	141.269
Q4	136.611917	122.31861	147.0377
1999Q1	124.216894	110.75629	137.1036
Q2	133.738471	118.59629	145.3616
Q3	131.239538	115.83598	143.0448
Q4	120.968501	106.26704	133.7168
2000Q1	124.134938	108.48687	132.6606
Q2	118.83752	103.35939	126.6628
Q3	111.069728	96.097969	118.3103
Q4	110.511014	95.173276	115.5618
2001Q1	104.247011	89.302027	109.7168
Q2	105.031593	89.54902	109.9724
Q3	104.6031	88.78513	108.8553
Q4	102.123329	86.252426	104.8629

Indices generated from the coefficients of the FPRS time dummies

Year	M1 Index	M2 Index	M3 Index
2002Q1	98.667458	82.93384	101.43
Q2	97.9403075	81.907387	99.68141
Q3	92.5997263	77.028477	95.12399
Q4	89.3462424	74.004225	91.3046
2003Q1	86.1073855	70.932178	86.34511
Q2	76.2204032	62.488665	75.65709
Q3	81.2484859	66.274631	81.0821
Q4	86.595529	70.310151	87.02402
2004Q1	102.247279	82.618133	101.6992
Q2	100.738413	81.028276	102.0383
Q3	108.159629	86.513821	108.2414
Q4	113.034964	90.020569	111.4057
2005Q1	117.503038	93.113687	114.4876
Q2	127.405025	100.55956	125.6396

APPENDIX VI

$$\ln \frac{P_{St_2}}{P_{Ft_1}} = \sum_{t=1}^{T} \alpha_t D_t + \eta(r\tau) + \gamma A + \varepsilon \qquad \text{(I)}$$

Let:

$X = \sum \alpha_t D_t$

$Y = \eta(r\tau)$

$Z = \gamma A$

Eq (I) is rewritten as:

$$\ln \frac{P_{St_2}}{P_{Ft_1}} = X + Y + Z + \varepsilon \qquad \text{(II)}$$

$$\frac{P_{St_2}}{P_{Ft_1}} = e^{(X+Y+Z+\varepsilon)}$$

$$\frac{P_{St_2}}{P_{Ft_1}} = e^{X} \times e^{Y} \times e^{Z} \times e^{\varepsilon}$$

Apply series to exponential function:

$$e^{X} = 1 + X + \frac{X^2}{2!} + \frac{X^3}{3!} + \frac{X^4}{4!} + \Lambda$$

and let:

$$\overline{X} = e^{X} - 1 = X + \frac{X^2}{2!} + \frac{X^3}{3!} + \frac{X^4}{4!} + \Lambda$$

Similarly for:

$$\overline{Y} = e^{Y} - 1 = Y + \frac{Y^2}{2!} + \frac{Y^3}{3!} + \frac{Y^4}{4!} + \Lambda$$

$$\overline{Z} = e^{Z} - 1 = Z + \frac{Z^2}{2!} + \frac{Z^3}{3!} + \frac{Z^4}{4!} + \Lambda$$

$$\overline{\varepsilon} = e^{\varepsilon} - 1 = \varepsilon + \frac{\varepsilon^2}{2!} + \frac{\varepsilon^3}{3!} + \frac{\varepsilon^4}{4!} + \Lambda$$

Then:

$$\frac{P_{St_2}}{P_{Ft_1}} = (1 + \overline{X})(1 + \overline{Y})(1 + \overline{Z})(1 + \overline{\varepsilon})$$

$$\frac{P_{St_2}}{P_{Ft_1}} = (1 + \overline{X} + \overline{Y} + \overline{Z} + \overline{\varepsilon}) + (\overline{XY} + \overline{XZ} + \overline{X\varepsilon} + \overline{YZ} + \overline{Y\varepsilon} + \overline{Z\varepsilon}) + (\overline{XYZ} + \overline{XY\varepsilon} + \overline{YZ\varepsilon}) + (\overline{XYZ\varepsilon})$$

(III)

where:

$$2nd \cdot order \cdot terms = (\overline{XY} + \overline{XZ} + \overline{X}\overline{\varepsilon} + \overline{YZ} + \overline{Y}\overline{\varepsilon} + \overline{Z}\overline{\varepsilon})$$

$$3rd \cdot order \cdot terms = (\overline{XYZ} + \overline{XY}\overline{\varepsilon} + \overline{YZ}\overline{\varepsilon})$$

$$4th \cdot order \cdot term = (\overline{XYZ}\overline{\varepsilon})$$

Knowing that all the absolute values of $\sum \alpha_t D_t$, $\eta(r\tau)$, γA and ε are smaller than unity where:

$\sum \alpha_t D_t$ varies from -0.5267 to 0.5853

$\eta(r\tau)$ varies from 0.0004 to 0.2348

γA varies from 0 to -0.193

ε varies from -0.9498 to 0.6957

the values of the 2nd, 3rd and 4th order terms are generally very small. Since the signs of the 2nd, 3rd and 4th order terms are not all the same, the sum of them can be partly balanced out and becomes negligible. Hence, Equation (III) can be approximated as:

$$\frac{P_{St_2}}{P_{Ft_1}} \cong (1 + \overline{X}) + \overline{Y} + \overline{Z} + \overline{\varepsilon}$$

$$\frac{P_{St_2}}{P_{Ft_1}} \cong e^X + (e^Y - 1) + (e^Z - 1) + (e^{\varepsilon} - 1)$$

(IV)

Apply Equation (IV) to the OLS equation of FPRS (M1) Model:

$$\frac{\hat{P}_{St_2}}{P_{Ft_1}} = \sum \alpha_t D_t + 1.4581(r\tau) - 0.0193A$$

The compounded rate of depreciation of the estimated model can be approximated at:
[Exp(-0.0193)-1] = -0.019 = 1.9% per year

APPENDIX VII

$$\Delta \ln p_{RS} = \beta_1 + \beta_2 m + \beta_3 r\tau + \beta_4 a + \beta_5 h + \varepsilon \qquad \text{(I)}$$

Let,

P_{t_1} = price of the first transaction of the pair sales of the property at time t_1

P_{t_2} = price of the second transaction of the pair sale of the same property at time t_2

Equation I is rewritten as,

$$\ln \frac{P_{t_2}}{P_{t_1}} = \beta_1 + \beta_2 m + \beta_3 r\tau + \beta_4 a + \beta_5 h + \varepsilon$$

Let,

$V = \beta_1$, $W = \beta_2 m$, $X = \beta_3 (r\tau)$, $Y = \beta_4 a$, $Z = \beta_5 h$

Eq (I) is rewritten as,

$$\ln \frac{P_{t_2}}{P_{t_1}} = V + W + X + Y + Z + \varepsilon \qquad \text{(II)}$$

$$\frac{P_{t_2}}{P_{t_1}} = e^{(V+W+X+Y+Z+\varepsilon)}$$

$$\frac{P_{t_2}}{P_{t_1}} = e^V \times e^W \times e^X \times e^Y \times e^Z \times e^\varepsilon$$

Apply series to exponential function,

$$e^V = 1 + V + \frac{V^2}{2!} + \frac{V^3}{3!} + \frac{V^4}{4!} + \Lambda$$

and let,

$$\overline{V} = e^V - 1 = V + \frac{V^2}{2!} + \frac{V^3}{3!} + \frac{V^4}{4!} + \Lambda$$

Similarly for,

$$\overline{W} = e^W - 1 = W + \frac{W^2}{2!} + \frac{W^3}{3!} + \frac{W^4}{4!} + \Lambda$$

$$\overline{X} = e^X - 1 = X + \frac{X^2}{2!} + \frac{X^3}{3!} + \frac{X^4}{4!} + \Lambda$$

$$\overline{Y} = e^Y - 1 = Y + \frac{Y^2}{2!} + \frac{Y^3}{3!} + \frac{Y^4}{4!} + \Lambda$$

$$\overline{Z} = e^Z - 1 = Z + \frac{Z^2}{2!} + \frac{Z^3}{3!} + \frac{Z^4}{4!} + \Lambda$$

$$\overline{\varepsilon} = e^\varepsilon - 1 = \varepsilon + \frac{\varepsilon^2}{2!} + \frac{\varepsilon^3}{3!} + \frac{\varepsilon^4}{4!} + \Lambda$$

Then,

$$\frac{P_{t_2}}{P_{t_1}} = (1+\overline{V})(1+\overline{W})(1+\overline{X})(1+\overline{Y})(1+\overline{Z})(1+\overline{\varepsilon})$$

$$\frac{P_t}{P_{t_1}} = (1+\overline{V}+\overline{W}+\overline{X}+\overline{Y}+\overline{Z}+\overline{\varepsilon}) + 2nd \cdot order \cdot terms + 3rd \cdot order \cdot terms + \quad \text{(III)}$$

$$4th \cdot order \cdot terms + 5th \cdot order \cdot terms + 6th \cdot order \cdot terms$$

where

$$2nd \cdot order \cdot terms = (\overline{VW}+\overline{VX}+\overline{VY}+\overline{VZ}+\overline{V\varepsilon}+\overline{WX}+\overline{WY}+\overline{WZ}+\overline{W\varepsilon}+\overline{XY}+\overline{XZ}+\overline{X\varepsilon}+\overline{YZ}+\overline{Y\varepsilon}+\overline{Z\varepsilon})$$

$$3rd \cdot order \cdot terms = (\overline{VWX}+\overline{VWY}+\overline{VXY}+\overline{WXY}+\overline{VWZ}+\overline{VXZ}+\overline{VYZ}+\overline{WXZ}+\overline{WYZ}+\overline{XYZ}+\overline{VW\varepsilon}+$$

$$\overline{VX\varepsilon}+\overline{VY\varepsilon}+\overline{WX\varepsilon}+\overline{WY\varepsilon}+\overline{XY\varepsilon}+\overline{VZ\varepsilon}+\overline{WZ\varepsilon}+\overline{XZ\varepsilon}+\overline{YZ\varepsilon})$$

$$4th \cdot order \cdot terms = (\overline{VWXY}+\overline{VWXZ}+\overline{VWX\varepsilon}+\overline{VWYZ}+\overline{VWY\varepsilon}+\overline{VWZ\varepsilon}+\overline{VXYZ}+\overline{VXY\varepsilon}+\overline{VXZ\varepsilon}+\overline{VYZ\varepsilon}$$

$$+\overline{WXYZ}+\overline{WXY\varepsilon}+\overline{WXZ\varepsilon}+\overline{WYZ\varepsilon}+\overline{XYZ\varepsilon})$$

$$5th \cdot order \cdot terms = (\overline{VWXYZ}+\overline{VWXY\varepsilon}+\overline{VWXZ\varepsilon}+\overline{VWYZ\varepsilon}+\overline{VXYZ\varepsilon}+\overline{WXYZ\varepsilon})$$

$$6th \cdot order \cdot terms = (\overline{VWXYZ\varepsilon})$$

Knowing all the absolute values of β_1, $\beta_2 m$, $\beta_3(r\tau)$, $\beta_4 a$, $\beta_5 h$ & ε are smaller than unity where

β_1 = 0.0351

$\beta_2 m$ varies from -0.96 to 0.75

$\beta_3(r\tau)$ varies from 0.0004 to 0.1610

$\beta_4 a$ varies from -0.266 to 0

$\beta_5 h$ = -0.542 if they are forward-spot pair sales, = 0 if otherwise

ε varies from -0.98 to 0.79

The values of the 2nd, 3rd , 4th, 5th and 6th order terms are generally very small. Since the signs of the 2nd, 3rd , 4th, 5th and 6th order terms are not all the same, the sum of them can be partly balanced out and becomes negligible. Hence, Equation (III) can be approximated as,

$$\frac{P_{t_2}}{P_{t_1}} \approx 1+\overline{V}+\overline{W}+\overline{X}+\overline{Y}+\overline{Z}+\overline{\varepsilon}$$

$$\frac{P_{t_2}}{P_{t_1}} \approx 1+(e^{V}-1)+(e^{W}-1)+(e^{X}-1)+(e^{Y}-1)+(e^{Z}-1)+(e^{\varepsilon}-1) \quad \text{(IV)}$$

Hence, the value in each bracket is the percentage change of the corresponding variable. Apply Equation (IV) to the OLS equation of FSIT Model,

$$\ln\frac{P_{t_2}}{P_{t_1}} = 0.0351+0.7869m+1.2983r\tau-0.0266a-0.0542h$$

$$\frac{P_{t_2}}{P_{t_1}} = 1+(e^{0.0351}-1)+(e^{0.7869m}-1)+(e^{1.2983r\tau}-1)+(e^{-0.0266a}-1)+(e^{-0.0542h}-1)$$

Therefore,

Depreciation rate is approximated at 2.62% $(=e^{-0.0266}-1)$

Risk premium for hedging the hidden forward risks is approximated at 5.25% $(=e^{-0.0542}-1)$

APPENDIX VIII

Saleable Area Open Forum
HKIS Consultation Paper (Version 1) as at 16 May 2007

(A) Background

HKIS has decided to review the existing "Code of Measuring Practice" (the "Code"). A Working Group with representatives from divisions was formed. The Working Group has decided to review the Code by stages. The first stage is related to Saleable Area. The Working Group also wishes to review the Gross Floor Area in the next stage.

A revised "Code" will be published to supersede the existing "Code".

(B) Saleable Area

1. The Saleable Area of a unit comprises the floor area exclusively allocated to that unit including balconies and other similar features but excluding common areas such as staircases, lift shafts, lobbies and communal toilets. It shall be the area contained within the enclosing walls of the unit measured up to the exterior face of an external wall or the center line of a separating wall between adjoining units, as the case may be. Enclosing walls separating a unit from a lightwell, a lift shaft or any similar vertical shaft, or a common area, shall be deemed an external wall and its full thickness shall be included. All internal partitions and columns within the unit shall be included.

   Saleable Area describes the ownership and occupation of the premises in relation to the building structure. As such it also reflects to a certain extent the rights and liabilities appurtenant to the premises.

2. Saleable Area is an area which comprises "Core Saleable Area" and "Ancillary Saleable Area".

   Core Saleable Area is the Saleable Area which is roofed, of full head-room and capable for full normal occupation.

   Saleable Area not classified as Core Saleable Area is Ancillary Saleable Area.

3. Saleable Area comprises (but not limited to) the following components and their respective special measurement criteria are mentioned below:

Components	Special Measurement Criteria (if any)
(a) Core Saleable Area	
(b) Ancillary Saleable Area	
(b1) Cockloft (of clear headroom less than 2m)	It shall be the cockloft floor area excluding voids at Cockloft floor level.
(b2) Bay Window	It shall be the area that projects beyond the exterior face of an external wall. The measurement should be taken at sill level and excluding any peripheral mouldings.
(b3) Yard/Terrace/Garden/Flat Roof/Garage	
(b4) Plant Room, Meter Room	
(b5) Other	

Note : 1. Pipe Duct, A/C Platform, mouldings flower boxes and architectural fins are not saleable area.

2. Carparking spaces not forming an integral part of the unit are not included in Saleable Area calculation. They shall be counted by no. of spaces.

3. Voids in duplex flats and houses are not counted as Saleable Area.

4. Area occupied by internal staircases connecting different levels of areas which are qualified to be counted as Core Saleable Areas (or Ancillary Saleable Area, as the case to be) shall be counted as Core Saleable Area (or Ancillary Saleable Area) irrespective of its headroom.

Members shall separately state the measurement results of Core Saleable Area and Ancillary Saleable Area. For Ancillary Saleable Area, members shall separately state the respective Ancillary Saleable Areas of the components as classified above.

(C) Commentaries from the Working Group

1. In respect of the use of terminologies: "Saleable Area" and "Saleable Floor Area", it is noted that the "Saleable Area" and "Saleable Floor Area" are both used in the property market. To ensure consistency, only "Saleable Area" is proposed to be used in the revised "Code".

2. In the existing "Code" the Chinese name of "Saleable Area" is "實用面積 / 銷售面積". With reference to the Glossaries of Terms commonly used in Government Department, "實用面積" is not only the Chinese name of "Saleable Area" but also "Usable Floor Area". Other Chinese names such as "出售面積" and "可銷售面積" are used. To avoid confusion and ensure consistency, one Chinese name "銷售面積" is proposed to be used in the revised "Code".

3. Working Group considered the need to maintain in principle the existing measurement criteria of Saleable Area. Working Group also believed that the best way to protect public interests is to ensure that area data can be readily available and accessible to the public.

To reach the HKIS Saleable Area Working Group, please email: linda@hkis.org.hk or call the Secretariat on 2526 3679.

APPENDIX IX

CHANGES OF PRESALE PROPERTY POLICIES FROM 1994 TO 2006

1994

In 1994, there was a public outcry to curb the fierce speculation activities when the market was in the peak, several anti-speculation measures were implemented by the Government in June with an aim to stabilize the property prices. They included:

- Permitted period of presales was shortened from 2 years to no more than 9 months before the anticipated date of completion
- Internal (private) presales was reduced from 50% to 10% of the total number of units
- Deposit for buying a presale property was increased from 5% to 10%
- Forfeiture fee was 5% of the purchase price if the purchaser failed to sign ASP
- Sub-sale of the benefits of the ASP was prohibited before the release of Certificate of Compliance
- Stamp duty was imposed on the transactions of the ASP rather than on the transactions of Deed of Assignment
- Presales brochures and price lists were made available not less than 7 working days before the first registration day for the sale.

1995

Technical adjustments concerning the conditions for presales of uncompleted flats were adopted in respond to the downturn of the property market. Prices of new flats in December were between 25% and 35% lower than at the peak in April 1994. They included:

- Permitted period of presales was relaxed from 9 to 12 months
- An amount to be paid within 14 days or within 14 days of signing the formal ASP would be the amount which would result in the total of the preliminary deposit and this further installment being 20% of the purchase price of the unit concerned.

1997

In early 1997, the property market revived again and the prices reached to the level even over that of 1994. Measures were taken to tackle the speculation which included:

- Number of flats to be sold to company purchasers was limited to 15% of the total number of flats available per batch in a public presale
- For company purchaser, no change of directorship was allowed prior to the completion of assignment
- To ensure consumers to have the necessary information, developers were required to promulgate in newspaper advertisement:
  * the number of units available for presale in that particular batch
  * the number of units in that particular phase of development
  * the number of units in the entire development
- Developers should ensure that the 10% of flats for internal presales would go to genuine end-users only

- Permitted presale period was extended from 12 to 15 months
- All presale properties must be offered within 6 months from issue of Consent and no less than 20% of the total units subject to Consent must be released in each time of offer

1998

Not until the downturn of the property market in late 1997 did the Government consider relaxing the anti-speculation measures. The following were the measures relating to presales taken by the Government in and after 1998 with the aim to revitalize the market:

- Suspending the sub-sale restriction on uncompleted flats
- Prohibition of sales to company purchasers was suspended
- The restriction on no change of directorship of company purchasers prior to completion of assignment was suspended
- Relaxing the permitted period of presales from 15 months to 20 months
- The completion of presales within 6 months from the issue of Consent was suspended
- The offer for sale on each occasion not less than 20% of the units was suspended
- Relaxing the forfeiture deposit when signing the preliminary ASP from 5% to negotiation between the buying and selling parties, a norm is 3% to 5% subject to the price of the property
- Reducing the amount of initial deposit to 5%
- The quota for internal presales was increased from 10% to 20%, then 30%
- The following requirements regarding internal presales were removed:
  * the submission of Schedules disclosing the names and identity of private purchasers
  * the requirement to submit to LACO audited and unauditied reports on the conduct of sales proceedings and unaudited monthly returns on the progress of sale was suspended

2001

- Disclosure of sales information - All consents to sell residential units in uncompleted developments would require that the developer must provide prospective private purchasers with sales brochures complying with LACO CM No.40, containing the same information to be made available to the public.
- Presale brochures and price lists to the public would be not less than 7 calendar days prior to commencement of registration of purchasers.

2002

Mr Michael Suen, the Secretary for Housing, Planning and Lands made the following changes relating to property presales with the aim to revitalize the sluggish market.

- Internal presale quota on the number of residential unit and carparking spaces for presales to individual buyers would be removed.

2005

To respond to the outcries of the public in regard to the mal-practices of developers, the Government urged the REDA to revise the Guidelines for Sales Descriptions of Uncompleted Residential Properties with the aim to enhance the transparency of the

forward property market. Details of the revised Guidelines are contained in Appendix II.

2006

In respond to the repeated outcries of the public in regard to the developers not adhering to the Guidelines, the government urged REDA to revise the guidelines again and asked the developers to adhere to the guidelines. Otherwise, warning might be given.

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