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A Healthy Market for Informed Investors – A Report on the Derivative Warrants Market in Hong Kong

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PREFACE

1. Trading activity in Hong Kong's derivative warrants market has grown steadily and significantly over the last several years. Recently, a number of concerns have been raised about how the market operates and the conduct of market participants.
2. The SFC recently undertook a comprehensive review of the derivative warrants market. This report reflects the results of that review and sets out a number of proposals to further improve market integrity, conduct and investor understanding.
3. The main purpose of this report is to set out what we believe are the main issues currently facing our derivative warrants market, and our proposals as to how the market can be developed. We also hope through this report to give investors and other interested parties a better understanding of the Hong Kong derivative warrants market so that they might have a clearer picture of the interests, concerns and responsibilities of different market participants. It is hoped that the contents of this report will facilitate a focused and purposeful debate on the proposals put forward, and ultimately, result in changes that are conducive to the continuous development of Hong Kong's derivative warrants market.
4. With this purpose in mind, and to put our findings and proposals in context, we have adopted the following layout for this report –
 - (1) **Chapter I** – This Chapter gives a brief introduction to how we proceeded with this review and summarises our findings and proposals.
 - (2) **Chapter II** – This Chapter deals with the basics. We begin with a brief introduction to derivative warrants, explaining what they are, how they work, and their particular features. We also highlight here some recent statistics on the derivative warrants market in Hong Kong, and compare them with those in other markets.
 - (3) **Chapter III** – Chapter III gives an overview of the existing regulatory framework. It also discusses in detail the major changes introduced under the reform that took place in 2001/2002, and the rationale behind those changes.
 - (4) **Chapters IV to VII** – These Chapters are the heart of this report. Each Chapter discusses 1 of the 4 specific areas we have focused on for the purposes of this review, namely market characteristics and practices; assessing market impact; strengthening the regulatory regime; and enhancing investor education. We also note here our findings and proposals for going forward. Wherever possible, we have tried to be specific so as to engender more focused debate and discussion.
 - (5) **Chapter VIII** – In this Chapter, we set out some of our concluding thoughts and highlight what we will be doing next.

EXECUTIVE SUMMARY

Events leading to this review and summary of findings

1. During the first ten months of 2005, the turnover in our derivative warrants market averaged HK\$3.3 billion a day, representing 18% of the average daily total stock market turnover. In comparison, the average daily turnover for 2004 was HK\$2.1 billion, or 13% of the total. In view of this significant growth in trading activities, the SFC has been keeping a close watch over activities in this market. Concern has also been raised about certain market practices in the derivative warrants market and the suitability of derivative warrants for retail investors.
2. In response to these concerns the SFC undertook a comprehensive review of the derivative warrants market. Our review focused on 4 areas, namely –
 - (1) reviewing market characteristics and practices;
 - (2) assessing the impact of the activities in derivative warrants on the overall stability of the stock market;
 - (3) identifying which areas of the regulatory regime needed further strengthening; and
 - (4) assessing what further investor education initiatives were required.
3. Our key findings and proposals are as follows –
 - (1) **Market practices**

We note that there are a number of prevalent market practices that raise cause for concern. We are currently investigating a number of these.
 - (2) **Market impact**

We believe that the derivative warrants market has its own role to play and should therefore be maintained. Our review also indicates that the activities in this market do not currently threaten the stability of our stock market. We will however continue to closely monitor our derivative warrants market and encourage the Exchange to do the same. We will also continue to enhance our market risk monitoring system as the market develops further.
 - (3) **Proposed initiatives**

In light of some of the prevalent market practices, we propose a number of initiatives that would further strengthen the existing regulatory regime. Our specific proposals are –

 - (a) *tightening the liquidity provider provisions* by discouraging wide deviations from service standards specified in listing documents; requiring issuers to appoint liquidity providers in-house; and requesting liquidity providers to disclose information relating to the intra-day prices executed by them on each derivative warrant, and to present such information in a useful and user-friendly manner;

- (b) *a change to the Listing Rules to facilitate both further issues and identical issues;*
- (c) *banning commission rebates and other incentive schemes;*
- (d) *publishing new marketing guidelines to ensure application to all forms and media of marketing and to provide for a principle-based rather than prescriptive approach;*
- (e) *requiring the use of plain language and summaries in listing documents and working with the industry to agree common definitions and standard terms; and*
- (f) *launching new investor education initiatives and encouraging investor education by market participants, including through the use of plain language and summaries in listing documents, and the dissemination of critical information in a more useful and user-friendly manner, particularly through the Exchange's website.*

The Derivative Warrants Market in Hong Kong

Complexities of derivative warrants

4. Derivative warrants are complex financial instruments. They are listed on the SEHK and traded like stocks, ie they may be bought and sold in the market at anytime before their expiry.
5. Derivative warrants can be attractive to investors for several reasons. First, as they cost only a fraction of the price of their underlying asset and allow investors to profit from movements in the price of the underlying asset, they provide a much cheaper alternative to investing in the underlying asset. Second, they have a leveraging effect. Third, the potential loss is capped in that, at worst, the investor loses the entire amount invested but does not have to pay up a further sum on maturity.
6. Derivative warrants serve essentially 2 purposes. First, the combination of the leveraging effect and limited loss makes it an attractive financial product to more aggressive investors who wish to magnify their investment return. Second, they can be used as hedging instruments to reduce the risk exposures arising from other related investments.

Factors affecting the value and price of derivative warrants

7. Derivative warrants are complex products, and investing in them is very different from investing in their underlying stock or other asset. Derivative warrants have a “theoretical value” or “fair value” which may be very different from their actual price. The fair value is affected by a number of factors, namely (i) the price of the underlying asset; (ii) the volatility of that price; (iii) the time left to expiry; (iv) interest rates; and (v) the dividend

yield on the underlying asset. As regards the price of derivative warrants, this is affected not only by these 5 factors but also by any imbalances in supply and demand.

The significance of imbalances in supply and demand

8. Imbalances in the supply of and demand for derivative warrants can sometimes result in the price of a derivative warrant deviating substantially from its fair value. However, because derivative warrants have a fixed lifespan, substantial deviations cannot last indefinitely, and towards expiry the price will have to revert nearer to its fair value. Investors who are not aware of the potential for such price anomalies are therefore vulnerable to suffering losses if they buy an expensive derivative warrant near the time of its expiry in the expectation that its price will rise further.

The significance of implied volatility

9. Of the above 5 factors mentioned earlier, the most complex and difficult to understand is the volatility of the price of the underlying asset. Because volatility is an estimate only and thus subjective, it is possible for 2 issuers to issue derivative warrants over the same underlying asset and on identical terms but to ascribe different volatilities to the price of the underlying asset. As a result, the price of the 2 warrants will be different even though everything else is the same. Moreover, because issuers do not explicitly disclose the volatility they have ascribed, investors can only deduce or imply this from the price and other known facts and assumptions. Volatility thus implied is called “implied volatility”. Ascertaining implied volatility is crucial because it enables investors to assess whether a particular derivative warrant is expensive or cheap, and thus, suited to their needs.

Sources of liquidity

10. Liquidity is an important consideration for retail investors. Currently, trading in derivative warrants relies heavily on the participation of derivative warrant issuers – from January to October 2005, issuers were involved (as either purchaser or seller) in about 73% of the total transactions by value (ie 73% of the total turnover). Professional investors also contribute significantly to liquidity as their trades account for a significant portion of the market turnover.

More popular derivative warrants

11. Trading in our derivative warrants market is currently concentrated in derivative warrants over the HSI and over a few large-cap stocks.
12. Derivative warrants incorporate attractive features of stock market products and futures market products. Many investors therefore trade them as they would stocks. In doing so however, they ignore the fact that these are leveraged products, that they have an expiry date and that their price is affected by a number of factors, some of which may have nothing to do with the underlying asset itself.

Particular features of our derivative warrants market

13. Our derivative warrants market has grown significantly since the first derivative warrant was listed in 1989, with growth particularly strong since the regulatory reforms introduced in 2002.
14. According to the World Federation of Exchanges (WFE), trading in our derivative warrants market was the most active in the world between January and October this year.
15. Turnover in our derivative warrants market is very high – for October 2005, the turnover ratio was about 78%, meaning that on average 78% of all outstanding units of derivative warrants changed hands in one day.

Existing Regulatory Framework

16. Derivative warrants have been listed on the SEHK since 1989. The rules relating to the listing of derivative warrants were initially based on those relating to the listing of equity securities. It was not until the reforms introduced in 2001 and 2002 that the rules were amended to cater more specifically to derivative warrants.
17. Very briefly, the existing regulatory regime –
 - (1) sets limitations as to what may be the underlying asset, and where this is stock, limitations on which stocks may be used;
 - (2) sets out certain basic terms and conditions – such as a minimum issue price of HK\$0.25, minimum and maximum lifespan, how the settlement price is to be calculated, and mode of settlement;
 - (3) imposes certain qualifying requirements for issuers – such as a minimum HK\$2 billion net asset value, minimum credit rating and relevant experience;
 - (4) imposes certain requirements relating to the contents of listing documents;
 - (5) requires issuers to appoint a liquidity provider to provide liquidity in their derivative warrants;
 - (6) requires issuers to conduct all of their own and their group companies' dealings in their derivative warrants (save for certain exceptions) through the liquidity provider and to report these to the Exchange for dissemination to the market; and
 - (7) requires marketing material to be accurate and fair, to refer to the full terms and conditions in the listing documents, and to include appropriate risk warnings.

Market characteristics and practices

18. As part of our review, we examined the practices and behaviour of market participants, including issuers and liquidity providers. The following are some of the issues we have identified –
- (1) There is a significant growth in issuers' trading activities. We are concerned that unsophisticated investors are being attracted to invest in this market as they see the market as being full of liquidity and trading opportunities.
 - (2) Retail investors commonly use derivative warrants as a short-term speculative instrument, often without fully understanding the nature of derivative warrants.
 - (3) Some investors place undue emphasis on the turnover in a derivative warrant when making their investment decision.
19. Our Enforcement Division has already commenced a number of investigations about activities in the derivative warrants market including possible false trading, fixing of the settlement price during the expiry process, non-compliance with the liquidity providing obligations and illegal short-selling of warrants. While it is premature for us to reach conclusions in individual cases, we have identified certain features which are common to a number of our investigations.
- (1) There appears to be a high concentration of derivative warrants trading among a few small and medium sized brokerages.
 - (2) At face value, some 'professional' traders appear to be motivated by taking advantage of a number of current market practices which encourage high volume day trading, such as tight spreads quoted by liquidity providers; the commission rebates offered by issuers to brokers and which are passed on to these clients; and the readiness of some brokers to charge low commission rates or to allow clients to trade unlimited quantities of derivative warrants for a fixed nominal commission payment.
20. Our investigations continue in this area.

Market Impact

21. Another focus of our review, was to examine the possible impact of the derivative warrants market on the overall stability of the Hong Kong stock market. We assessed this by –
- (1) considering the general level of volatility of our stock market;
 - (2) comparing the relative size of our derivative warrants market with that of our stock market; and

- (3) assessing the impact on a stock as a derivative warrant over it nears expiry and the issuer of it starts to unwind its holdings in such stock.

Our view at this stage, following examination of these issues, is that we do not believe the derivative warrants market has had a negative effect on the stability of the Hong Kong stock market.

22. Notwithstanding the above conclusion, the SFC will continue to monitor the derivative warrants market, and other related markets, closely. We have in this regard developed a market risk monitoring system to assist in monitoring the overall stability of the markets and enhance our understanding of their dynamics. We will continue to enhance this system as the market develops further.

Strengthening the Regulatory Regime

23. Our review of the existing market practices confirms that there is a need to strengthen some aspects of the existing regulation.

Tightening the liquidity provider provisions

24. We believe the liquidity provider system is necessary to provide a distribution mechanism for issuers to sell their derivative warrants, and an exit mechanism for investors who wish to pull out from an investment in a derivative warrant. The system should therefore stay. However, the existing provisions need tightening to discourage misunderstandings by investors, and inappropriate practices by market participants. Our proposals in this regard include the following –

- (1) *to tighten the minimum service levels;*
- (2) *to compel issuers to appoint liquidity providers in-house; and*
- (3) *to enhance the dissemination of information relating to the performance of liquidity providers to the market.*

Quota system

25. The 2002 reform removed the quota system that was previously in place because it was felt it created supply-demand imbalances, and consequently, price anomalies. The system also raised concerns about facilitating market manipulation by cornering the supply of a derivative warrant whose underlying stock had reached its quota limit, ramping up the price and then attracting other retail investors to buy what was by then an overpriced product.
26. *We do not propose to reinstate a quota system.*

Facilitating further issues to minimise price anomalies

27. Experience suggests that in the absence of an appropriate supply of derivative warrants, prices deviate significantly from the fair value, as suggested by prices of other forms of derivative products over the same underlying.
28. *We propose reducing the time for processing further issues from the current 4 days to 2 days, and increasing the 20% limit on the maximum that may be held by issuers when making a further issue.*

Facilitating identical issues to enhance market competition

29. Two key factors that encourage fair pricing are potential for damage to an issuer's reputation and the availability of competing products. It is important therefore to allow other issuers to be free to introduce competing derivative warrants that have identical terms.
30. Two aspects of the existing rules restrict the ability of other issuers to issue identical versions of an existing derivative warrant. First, the requirement that a derivative warrant have a minimum life of 6 months and, secondly, the requirement that the issue price of a warrant be not less than HK\$0.25.
31. *We recommend relaxing these requirements only for the purpose of issuing identical versions of existing derivative warrants as this will encourage market competition.*

Banning commission rebate and other incentive schemes

32. We have a number of concerns regarding the existing commission rebate and incentive schemes.
 - (1) Unlimited or unrestricted rebate schemes have the potential to attract investors whose main objective is to generate commission rebates rather than use derivative warrants as an investment tool. This in turn can also confuse or mislead the market by giving a wrong impression of turnover.
 - (2) We have found evidence of abuses of the schemes.
 - (3) It is difficult for investors to know whether the change in turnover of a particular derivative warrant is the result of a change in market sentiment for that derivative warrant or the result of a change in a related rebate scheme.
 - (4) We believe issuers do not have sufficient control over various aspects of their schemes.
33. *We accordingly propose imposing a ban on commission rebate and other incentive schemes.*

Publishing new marketing guidelines

34. Our review showed that many derivative warrant issuers employ high penetration marketing strategies to promote their derivative warrants.
35. The SFC previously issued guidelines to derivative warrant issuers regarding marketing material for such products.
36. Despite the existing guidelines, we have observed a number of increasingly prevalent marketing and promotional practices employed by derivative warrant issuers, which give us cause for concern. In particular advertisements often only include a positive analysis; and it is sometimes not clear whether the material in question is intended to be an advertisement or a commentary.
37. These practices contribute to giving investors a distorted view of derivative warrants, thus making this already complex product less likely to be properly understood.
38. *We therefore propose publishing new guidelines that expressly cover all forms and media of marketing and adopt a principle-based approach.*
39. *We will also discuss this issue with the Broadcasting Authority if necessary to ensure all marketing activity is caught.*

Plain language

40. We believe market participants, and issuers in particular, can play an equally important role in enhancing investors' understanding of derivative warrants by ensuring that any materials concerning their products are readily accessible and easily understood.
41. *We propose requiring that listing documents be written in clear non-technical language and accompanied by a concise 1-2 page summary.*
42. *We further recommend that the industry and regulators agree on common definitions and standard terms for standard products.*

Launching new investor education initiatives

43. Our review revealed a fairly high level of misunderstanding and misconceptions about derivative warrants on the part of retail investors. This reinforces our view that derivative warrants are complex products, to be invested in only after careful consideration.
44. The SFC has conducted extensive investor education on derivative warrants and continues to do so, with a number of new initiatives in the pipeline.
45. *We will step up our already extensive work on investor education.*

46. *We understand that the Exchange is proposing to enhance its website. We welcome its initiatives in that regard and will continue to work with them to see how dissemination of information may be further improved.*

CHAPTER I – INTRODUCTION

Background

1. During the first ten months of 2005, the turnover in our derivative warrants market averaged HK\$3.3 billion a day, representing 18% of the average daily total stock market turnover. In comparison, the average daily turnover for 2004 was HK\$2.1 billion, or 13% of the total. In view of the significant growth in trading activities in the derivative warrants market, the SFC has been keeping a close watch over the activities of this market in order to identify issues and risks which may hinder the healthy development of the market.
2. During this time, many market participants and market watchers, including the media, have also voiced their views and concerns about the increased activity in our derivative warrants market. Some felt that the growing size of the derivative warrants market would threaten the stability of our stock market, and others called for a review of the regulatory framework to address undesirable and inappropriate market practices and weakness in our market system. When the HSI fell by 301.49 points on 18 August 2005, concerns about the activities in our derivative warrants market increased. Taking into account a number of investor complaints received about derivative warrants and the results of our inspections of licensees, we felt that it was timely to undertake a comprehensive review of the derivative warrants market.
3. This report sets out the findings of our review and makes recommendations for going forward. These include both proposals for change, and proposals for maintaining the status quo.
4. Our proposals are still just that – proposals – and no decision has been taken to implement them. We hope that interested parties will let us know their views and concerns about the proposals so that these can be taken into account before a final decision is reached on whether, and which of them, to implement, modify or abandon.
5. Most of our proposals for change will necessitate changes to the Listing Rules. The detailed changes to the Listing Rules are not discussed in this paper but will be the subject of separate consultation if pursued.
6. We would also note here that we have discussed the various general principles considered in this Report with the Exchange staff. Exchange staff have indicated that in large part it supports the direction of the proposals and will work closely with the SFC and the industry to further develop specific market enhancement proposals.
7. In the following paragraphs, we set out a summary of the key concerns that have been raised about our derivative warrants market. We then go on to discuss how we conducted this review, ie the areas we focused on and the approach we adopted. We conclude this Chapter with a summary of our proposals.

Concerns raised

8. The main concerns that have been raised may be summarised as follows –

(1) Market volatility and systemic risk

Many expressed the view that the continued growth of the derivative warrants trading had increased market volatility and systemic risk, with some also believing that liquidity providers were not discharging their responsibility of stabilizing derivative warrant prices. There were also concerns that derivative warrant trading was highly speculative.

(2) Review and tightening regulation

Many expressed the need for a comprehensive review of the derivative warrants market and tighter regulation, while others warned against over-regulating and undermining Hong Kong's status as an international financial centre. Issuers felt there was adequate regulation and high transparency and that they had been very self-disciplined. It was also suggested that the Exchange should ease the approval process so as to help address supply and demand imbalances. On the other hand, there were also calls for the rules introduced in 2002 to facilitate further issuance to be reversed.

(3) Enforcement and regulatory action

There were calls by some for the SFC to look into unusual derivative warrant transactions and for the Exchange to be prudent in approving issues.

(4) Fairness and conflicts

There were also concerns about the fairness, impartiality and transparency of the derivative warrants market and the conflicts of interest arising from the promotion of issues and giving of investment advice. Some however noted that putting restrictions on advertising would worsen the business environment.

(5) Need for investor education

Many noted that investors did not fully understand the potential risks of derivative warrants and called for investor education, while others noted that investor education was not the ultimate solution and could not replace tighter regulation.

Actions taken by the SFC

9. In recent years, we have made a significant investment in investor education regarding derivative warrants. Our investor education efforts are discussed in greater detail in Chapter VII. Essentially, these focused on highlighting the complexities of derivative warrants and emphasising the need for investors to have a clear understanding of such products and how they work, before investing in them.

10. A working group was formed within the SFC to conduct this review. The work done included the following –
 - (1) We reviewed the existing regulatory framework and in particular the changes implemented under the 2002 reform.
 - (2) We sent out 2 questionnaires to each of the 19 derivative warrants issuers. The questionnaires focused on the current liquidity provider obligations, and on commission rebates and other incentive schemes offered by issuers to brokers and investors. All 19 issuers responded.
 - (3) We met with different market participants and interest groups. The objective was to get a better understanding of their respective views and concerns.
 - (4) We also considered trading statistics and other market data relating to the activities of issuers, brokers and other market participants in the derivative warrants market.

11. The review of the derivative warrants market has focused on the following 4 areas –
 - (1) reviewing market characteristics and practices – reviewing the activities and practices in the market to identify any misconduct or any practices that needed curbing or discouraging;
 - (2) assessing market impact – assessing the impact of the activities in derivative warrants on the overall stability of the stock market;
 - (3) strengthening the regulatory regime – assessing what aspects of the existing regulatory regime needed tightening or relaxing; and
 - (4) enhancing investor education – reviewing our existing investor education efforts and assessing what further initiatives were required.

Approach to conducting review and summary of proposals

Going back to basics

12. We started our review by going back to the basics – by revisiting what purpose derivative warrants and a derivative warrants market serve. We then examined the existing regulatory framework and the current structure of our market and its particular features (including the profile of its participants). Only then did we consider which areas needed reform and change.

Need for a derivative warrants market

13. Our view at this stage is that there is no need for Hong Kong to abolish or abandon its derivative warrants market. Derivative warrants provide opportunities for investors to use their capital more efficiently, to hedge their exposures from other investments and, as

with any other product, to diversify their portfolio. They therefore play a useful role in the portfolio of an investor. We note also that many international markets, and certainly the major markets in Europe (such as Germany, Italy and the UK) have a derivative warrants market. The existence of such a market in most international markets acknowledges that it has a role to play. Indeed, many markets in Asia are also trying to develop their derivative warrants market, including Singapore, Korea, Malaysia and the Mainland. As Hong Kong maintains its position as an international financial centre, a derivative warrants market serves a useful and attractive purpose.

14. We recognize, and have emphasised for some time, that derivative warrants are complex products. We believe that they are not suitable for everyone and certainly not suitable for unsophisticated investors who have little or no understanding of how they work and how they may be used. However, they serve a genuine purpose and investors should have the option to use them to meet their investment needs. How best then to balance these concerns?

Need to curb certain practices

15. Although we recognize the appropriateness of the derivative warrants market, we recognize that there is a need to curb certain undesirable and inappropriate market practices of some market participants and issuers, which enable them to reap profits and benefits at the expense of retail investors. There are currently cases relating to such practices that are under active investigation by our Enforcement Division. We will be continuing our surveillance and enforcement efforts in this regard.

Need to monitor stability

16. We also recognize that there is a need to ensure that the activities in our derivative warrants market do not pose systemic risk or threat to our stock market. Many in the market and media have already raised concerns in this regard. As shall be seen later in this report, our review indicates that given the size of the derivative warrants market and the current dynamics of our stock market, the trading activities in our derivative warrants market, though voluminous, do not currently pose a threat to the overall stability of our stock market. However, we will continue to keep a close watch over such activities.

Summary of proposals

17. Our review of the current market practices and regulation confirms that there are areas which require further strengthening. In particular we propose –
 - (1) tightening the liquidity provider provisions;
 - (2) a change to the Listing Rules to facilitate further issues (by the same issuer) and identical issues (by other issuers) to alleviate price anomalies and enhance market competition;
 - (3) banning commission rebate and other incentive schemes altogether;
 - (4) publishing new marketing guidelines;

- (5) requiring the use of plain language and summaries in listing documents; and
- (6) launching new investor education initiatives, and encouraging investor education by market participants including by using plain language and by making information more accessible to retail investors.

CHAPTER II – THE DERIVATIVE WARRANTS MARKET IN HONG KONG

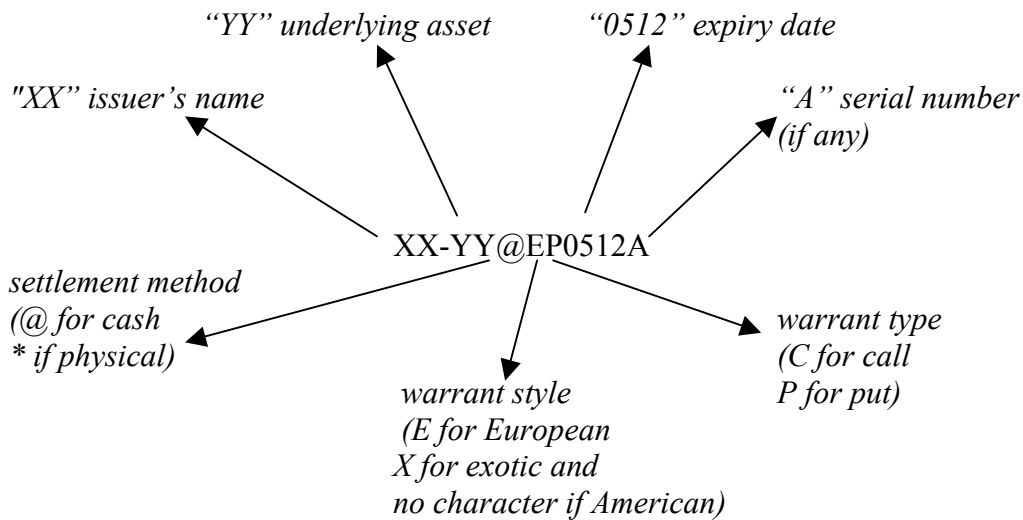
Derivative warrants – what are they

18. Warrants are financial instruments which give buyers the right, but not the obligation, to buy or sell an underlying asset at a pre-determined price (commonly referred to as the strike price or exercise price) on or before a specified date (commonly referred to as the expiry date or maturity date). The underlying asset may be any asset including a single stock, a basket of stocks, an index, a currency, a commodity or a futures contract.
19. Warrants may be issued by a party connected to the underlying asset or by independent third parties. So, for example, in the case of warrants that are based on stocks, these may be issued by the company whose stock it is or by an independent third party, usually an investment bank. This report focuses on warrants that are issued by independent third parties, also called derivative warrants.

Types of derivative warrants

20. Derivative warrants may be divided into 2 types – Call warrants and Put warrants. Call warrants give the holder the right to *buy* a given amount of the underlying asset at a predetermined exercise price while Put warrants give the holder the right to *sell* a given amount of the underlying asset at a predetermined exercise price. Moreover, the right to buy or sell (as the case may be) may either be exercised on the expiry date (in which case they are called European style warrants), or at anytime on or before the expiry date (in which case they are called American style warrants). Furthermore, settlement on expiry may be in cash or by physical delivery.
21. In Hong Kong, derivative warrants listed on the SEHK are generally European style warrants, cash settled, and automatically exercised. Like stocks, they may be traded. In other words, investors who have purchased derivative warrants may sell them in the market at anytime before they expire.
22. Some derivative warrants are more complex than others. The plain vanilla or standard derivative warrant is one that –
 - (1) has only one fixed or pre-determined exercise price;
 - (2) confers a right to buy or sell (depending on whether it is a Call or Put warrant) the underlying asset at a pre-determined exercise price the expiry date without any additional restrictions;
 - (3) has no mechanism to trigger early termination or expiry; and

- (4) provides for a payout on expiry that is calculated simply by comparing the settlement price¹ with the pre-determined exercise price.
23. Other more complex types of derivative warrants are commonly referred to as exotic warrants. They may have modified features of a plain vanilla warrant such as unusual exercise price determinations, payout mechanisms or expiry conditions.
24. The name of a derivative warrant provides much information about it including the issuer, the underlying asset, the settlement method, whether it is a European style, American style or exotic warrant, whether it is a Call or Put warrant and finally when it expires. The following illustrates –



Main reasons for investing in derivative warrants

25. Derivative warrants can be attractive to investors for several reasons. First, they provide a much cheaper alternative to investing in the underlying asset, but still allow investors to profit from movements in the price of the underlying asset. Derivative warrants cost only a fraction of the price of the underlying asset and in some cases, can be as little as 1% to 2% (or less) of the price of the underlying asset. Secondly, derivative warrants have a leveraging effect, ie a small change in the price of the underlying asset can result in a much larger change (in percentage terms) in the price of the derivative warrant, and thus potentially greater gains (or losses, as the case may be). Thirdly, no matter how big the potential loss, it is ultimately capped. This is because derivative warrants confer only a right to buy (or sell) the underlying asset but not an obligation to do so. Hence, the worst case scenario is that the investor lets his derivative warrants expire at maturity without exercising them and as a result loses the amount he paid for them. There is no need for him to pay up a further sum on maturity. Essentially therefore, the potential profit is much higher, but investors can lose all of their investment.

¹ The settlement price is fixed immediately prior to expiry, pursuant to a pre-agreed formula. For example, in the case of derivative warrants over an individual stock, the settlement price is usually based on the average closing price of the underlying asset over the 5 days prior to and excluding the expiry date.

Main uses of derivative warrants

26. Derivative warrants serve essentially 2 purposes.

- (1) First, because of their leveraging effect, they allow the more aggressive investors to magnify their investment return. This is particularly attractive to investors who are trying to profit by taking a view on an underlying asset, but are either unable or, do not wish, to invest a large amount. Moreover, as mentioned above, derivative warrants cost only a fraction of the price of the underlying asset and the loss on such an investment is capped at the amount invested. Hence, although investors can lose their entire investment in a derivative warrant, such loss is relatively small when compared to an equivalent position in the underlying asset. The combination of the leveraging effect, and limited loss makes derivative warrants an attractive financial product.
- (2) Secondly, derivative warrants can be used by investors as a hedging instrument to reduce the risk exposures arising from their holdings in the underlying asset or other related investments.

27. So, for example –

- (1) A bullish investor (who expects the price of a particular stock to rise above a certain level within a specified period) could buy a Call warrant instead of the underlying stock. The Call warrant would give him the right to buy the underlying stock at a pre-determined price within a specified time. Hence, if he expects the price of the underlying stock to rise significantly above X within that time, he could buy a Call warrant that gives the right to buy at X. If the price of the underlying stock then does exceed X within the specified time, the investor may sell the Call warrant in the market at a higher price. In contrast, if he had instead bought the underlying stock and then sold it when the price rose, his initial investment would have been much larger and his return (in percentage terms) smaller.
- (2) A risk-averse investor who already holds an underlying asset may be attracted to Put warrants over the same asset. If the price of the underlying asset were to subsequently fall, he would suffer a loss on the underlying asset that he holds, but the gain from the Put warrants will off-set this (at least to some extent if not totally).²

² As explained in paragraph 29(1) below, all else being equal, the value of a Put warrant rises when the price of the underlying falls, and falls when the price of the underlying rises.

Particular features of derivative warrants

Complicated products – very different from shares

28. Derivative warrants are complex financial instruments and very different in nature from the shares that underlie them. First, a derivative warrant holder does not have the same rights as shareholders of the underlying stock. For example, he does not have voting rights or the right to receive any dividends or bonus distributions. Secondly, the life of a derivative warrant is finite. A derivative warrant must be sold or exercised before it expires and becomes worthless. Thirdly, and perhaps most significantly, the value of a derivative warrant, and hence its price, is not affected solely by matters that would affect the price of the underlying stock. A number of additional factors also come into play as discussed below.

The value of a derivative warrant and the factors affecting value

29. Derivative warrants have a theoretical value (sometimes called “fair value”). This value, in turn, has 2 components – an intrinsic value³ and a time value.⁴ All else being equal, this theoretical or fair value may be affected as follows –

- (1) If the **price of the underlying asset** rises, the fair value of a Call warrant will rise while the fair value of a Put warrant will fall. This is because when the price of the underlying asset rises, the potential gain from exercising a Call warrant rises while the potential gain from exercising a Put warrant falls. In other words, the intrinsic value of a Call warrant rises while the intrinsic value of a Put warrant falls.
- (2) The higher the **volatility of the price of the underlying asset**, the higher the fair value of the derivative warrant. This is because a higher volatility implies a greater chance for the price of the underlying asset to surpass the exercise price, ie to rise above the exercise price in the case of a Call warrant, and fall below the exercise price in the case of a Put warrant.
- (3) The shorter the **time left to expiry** of the derivative warrant, the lower its fair value. This is because as the time left to expiry decreases, so does the time value.
- (4) The higher the **interest rates**, the higher the fair value of a Call warrant and the lower the fair value of a Put warrants. When interest rates go up, a Call warrant is more attractive compared to its underlying asset because the initial investment in Call warrants (and thus the funding cost) is much smaller. This increases the fair value of a Call warrant. In the case of Put warrants, the high interest rate environment makes it more worthwhile to sell the underlying stock rather than

³ The intrinsic value reflects the potential profit on exercising the derivative warrant, ie in the case of a Call warrant, this means the profit (if any) calculated as $P - E$ where P = the price of the underlying asset and E = the exercise price, and in the case of a Put warrant, this means the profit (if any) calculated as $E - P$ where, again P = the price of the underlying asset and E = the exercise price.

⁴ The time value reflects the potential for the price of the underlying asset to move favourably during the life of the derivative warrant, ie to rise in the case of a Call warrant, and fall in the case of a Put warrant.

buy a Put warrant⁵ because an investor can earn additional interest income on the sale proceeds. The Put warrant is therefore relatively less attractive and its fair value should thus fall.

- (5) The higher the ***dividend yield on the underlying asset***, the lower the fair value of Call warrants and the higher the fair value of Put warrants. Derivative warrant holders are generally not entitled to share in any cash dividend paid on the underlying stock. Theoretically therefore an increase in expected dividend means that Call warrants will be worth less (relative to the underlying stock) while Put warrants will be worth more.

30. The interplay of the above factors can be quite complex. For example, while a rise in stock price may suggest that the value of a Call warrant should rise, a shorter time to expiry and falling interest rates may be simultaneously driving its price in the opposite direction. In determining the fair value of derivative warrants therefore, investors should consider the impact of these factors in their totality.

Factors affecting the price of a derivative warrant

31. Each of the 5 factors affecting the *value* of a derivative warrant are also relevant to determining its *price* – both at launch and subsequently when it is traded on the SEHK. In this regard, the first 3 factors tend to have a greater impact on derivative warrant prices in Hong Kong⁶ and of these, the second (ie the volatility of the price of the underlying asset) is perhaps the most complex and difficult to understand. We therefore discuss this aspect in greater detail in paragraphs 33 to 35 below.
32. A further factor likely to affect the price of a derivative warrant is its relative supply and demand. However, because derivative warrants have a fixed lifespan, changes in price caused by imbalances in supply and demand cannot last indefinitely, particularly if the change results in their price deviating substantially from their fair value. This is discussed in greater detail in paragraph 36 below.

Implications of volatility

33. Volatility is a measure of how the price of an underlying asset is expected to fluctuate over a given period of time. It can be estimated based on historical price movements of the underlying asset, but no one can accurately predict it. It is therefore a subjective element, ie each issuer may have its own views on the future behaviour of an underlying asset during the life of the derivative warrant. It is entirely possible therefore for 2 issuers to issue derivative warrants on the same underlying asset and on identical terms, but to ascribe a different volatility to the price of the underlying asset. The result is that the price of the 2 derivative warrants will be different even though their underlying asset and terms are the same.

⁵ As mentioned in paragraph 20 above, Call warrants give an investor the right to buy the underlying asset while Put warrants give an investor the right to sell the underlying asset. Consequently, buying a Call warrant is comparable to buying the underlying asset, while buying a Put warrant is comparable to selling the underlying asset.

⁶ This is because interest rates are fairly stable and investors tend to invest in stocks for short-term gains rather than dividend yield, and thus dividend yield does not tend to feature so highly in their assessment.

34. Secondly, issuers do not explicitly disclose the volatility they have ascribed when setting the price of their derivative warrants. Investors can thus only deduce or “imply” this from the price of the derivative warrant in question and other known facts and assumptions. Volatility that is deduced or implied in this way is often referred to as “implied volatility”.
35. Ascertaining implied volatility is crucial when considering an investment in derivative warrants because it enables an investor to assess whether the derivative warrant is expensive or cheap, and consequently, whether investing in it will serve his investment needs and objectives. For example, if the price of the derivative warrant and other known facts and assumptions indicate that the implied volatility is fairly high, then an investor who considers that the volatility of the price of the underlying should in fact be quite low will be able to deduce that the issuer has ascribed a higher volatility and that the derivative warrant may thus be overpriced.⁷ Being aware of this helps the investor determine whether the derivative warrant suits his investment needs.

Implications of supply-demand imbalances

36. The price of most things, including many securities, is typically driven by supply-demand forces. Ordinarily, as in the case of stock, this is fine, but in the case of derivative warrants, this can pose problems. This is because derivative warrants have a fixed lifespan and on expiry, there may be a pay-out. This pay-out is calculated by reference to the derivative warrant’s intrinsic value and *not* its relative supply and demand. As a result, no matter how high the price may be driven up to by supply-demand forces, towards expiry, it will necessarily have to revert towards the value of any pay-out due on expiry. The point therefore is that supply-demand imbalances during the lifetime of a derivative warrant can result in price anomalies, and investors who are not aware of this are vulnerable to suffering losses if they buy the derivative warrant near the time of its expiry and in the expectation that its price will rise further. It is important therefore to minimise the chances of supply and demand imbalances where possible.

Particular features of our derivative warrants market

Market participants

37. The derivative warrants market in Hong Kong is primarily a retail market with active participation by both retail investors and professional market participants.
38. Derivative warrants are proprietary products. Issuers therefore put a lot of resources into promoting their derivative warrants and enhancing their brand name at the retail level, so as to differentiate their derivative warrants from other comparable products available in the market. More importantly, as liquidity⁸ is an important consideration for retail

⁷ As discussed in paragraph 29(2) above, the higher the volatility, the higher the value, and hence the higher the price. If therefore the volatility ascribed is higher than appears justified, this translates to the derivative warrant being more expensive than justified, ie overpriced.

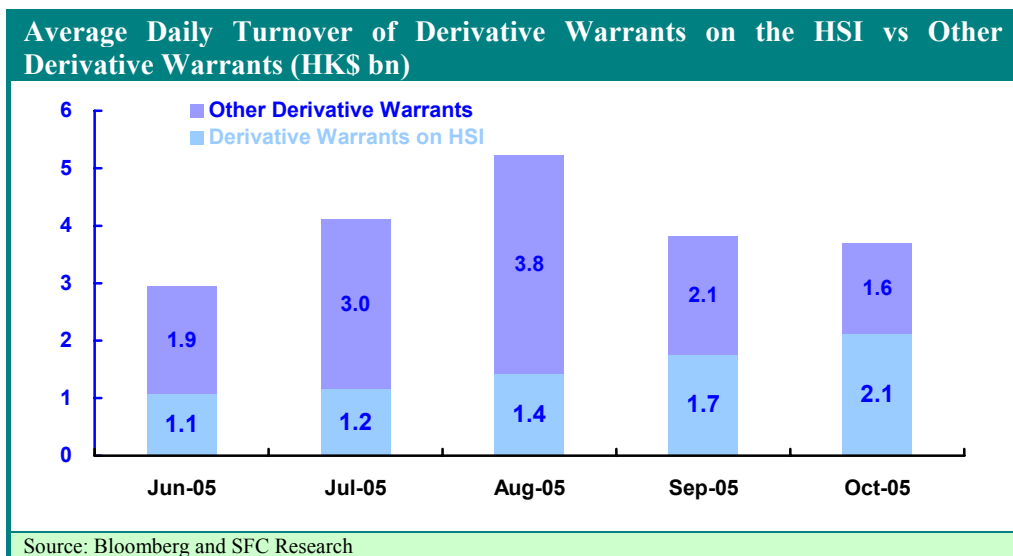
⁸ Liquidity in this paper refers to the ease with which a product may be bought or sold.

investors, issuers act as liquidity providers, standing ready to offer price quotes for their derivative warrants so that investors can always transact with them if there are no other ready buyers or sellers in the market. From January to October 2005, issuers were involved – as either purchaser or seller – in about 73% of the total transactions by value (ie 73% of the total turnover). In other words, about 73% of the value of derivative warrants traded during this period, involved issuers as either buyer or seller. This indicates that trading in derivative warrants relies heavily on the participation of derivative warrant issuers.

39. Apart from issuers, another significant group of participants in the derivative warrants market is the professional investor. Professional investors are informed and well-resourced market participants who often adopt a short-term “quick profits” strategy. They tend to derive their profits mainly from the intra-day price movements of derivative warrants, and also do not usually hold large positions overnight or for extended periods of time. Their trades constitute a significant portion of the market turnover.

Trading is concentrated in derivatives warrants over a few underlying assets

40. The terms and conditions of derivative warrants of different issuers can vary to meet the different needs of different investors. In practice however, issuers tend to focus on issuing derivative warrants that have a wide retail appeal. At present, more than half of the trading in derivative warrants are in warrants over the HSI and 2 large-cap stocks.
41. The HSI is currently the most popular underlying for derivative warrants. As of the end of October 2005, 122 derivative warrants (or about 10% of the total number of derivative warrants listed on the SEHK) were issued on the HSI. During the period from June to October 2005, trading in derivative warrants over the HSI accounted for 37.7% of the total turnover in the derivative warrants market. The monthly turnover of HSI derivative warrants is depicted in the chart below. The next two most actively traded derivative warrants were those over HSBC and Hutchison, representing 11.3% and 7.7% respectively of the total turnover of the derivative warrants market during June to October 2005. Derivative warrants over these underlying stocks and index accounted for 56.7% of the total turnover in the derivative warrants market.



Derivative warrants combine attraction of cash and futures market products

42. It appears that investors are more attracted to HSI derivative warrants than to other retail-oriented derivative products traded on the HKFE (our futures exchange) such as the mini-HSI futures contracts. In October 2005, the average daily turnover of HSI derivative warrants was HK\$2.1 billion, representing 58% of the total derivative warrant turnover. This is nearly double the notional value turnover of mini-HSI futures contracts. We believe that the following factors may have made derivative warrants, in particular those over the HSI, a very popular product for retail investors.
- (1) Derivative warrants are bought and sold in the same way as stocks. Hence, investors are more familiar with the trading and clearing practices of derivative warrants compared with those of other comparable derivative products traded on the HKFE.
 - (2) Derivative warrants are traded on the SEHK where the distribution network is much larger. Currently, the number of SEHK participants exceeds 400 while the HKFE has only about 130 participants.
 - (3) Trading in HSI derivative warrants does not require investors to understand the fundamental and firm-specific factors of individual companies. Therefore investors who look to profit from overall market movements may find HSI derivative warrants more appealing.
43. Derivative warrants are therefore unique products. They incorporate attractive features of products traded on the stock market and those traded on the futures market. They are derivative in nature, but traded on the SEHK. Many investors therefore trade derivative warrants in the same manner as stocks. In doing so however, they ignore the fact that derivative warrants are leveraged products, that unlike stocks, they have expiry dates and that their price is affected by a number of factors, some of which may have nothing to do with the underlying asset itself.

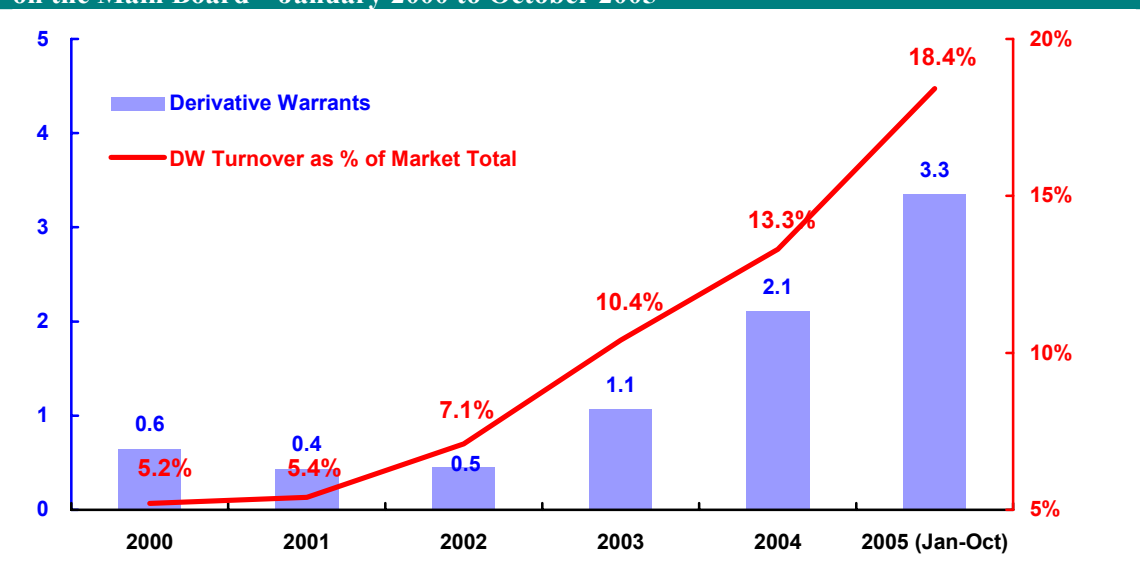
Profile of the derivative warrants market in Hong Kong

44. We conclude this Chapter by providing some statistics regarding the derivative warrants market in Hong Kong.

Historical comparison

45. The derivative warrants market has grown significantly since the first derivative warrant was listed in 1989. Growth has been particularly strong since the 2002 reform. The charts below show the growth in turnover between 2000 and 2005. We also set out a table showing the growth in derivative warrant issues since 2000.

Average Daily Turnover of Derivative Warrants (HK\$ bn) and % of Market Turnover on the Main Board – January 2000 to October 2005



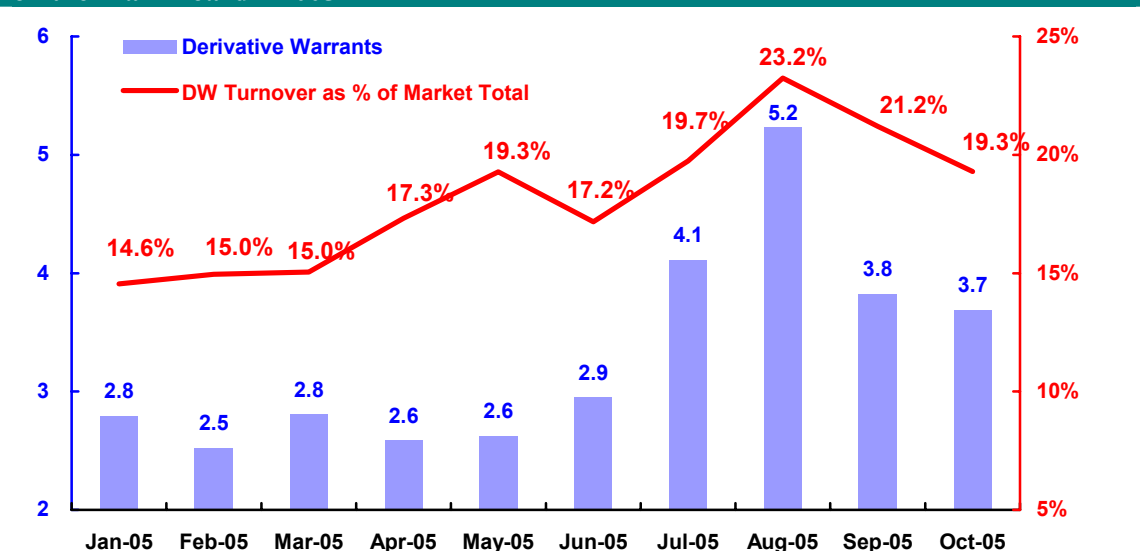
Source: HKEx

Number of Listed Derivative Warrants and Newly Listed Derivative Warrants

	2000	2001	2002	2003	2004	2005 (Jan-Oct)
Number of listed derivative warrants (period end)	202	22	347	530	863	1,189
Number of newly listed derivative warrants	279	181	644	678	1,259	1,345

Source: HKEx and Bloomberg

Average Daily Turnover of Derivative Warrants (HK\$ bn) and % of Market Turnover on the Main Board – 2005



Source: HKEx

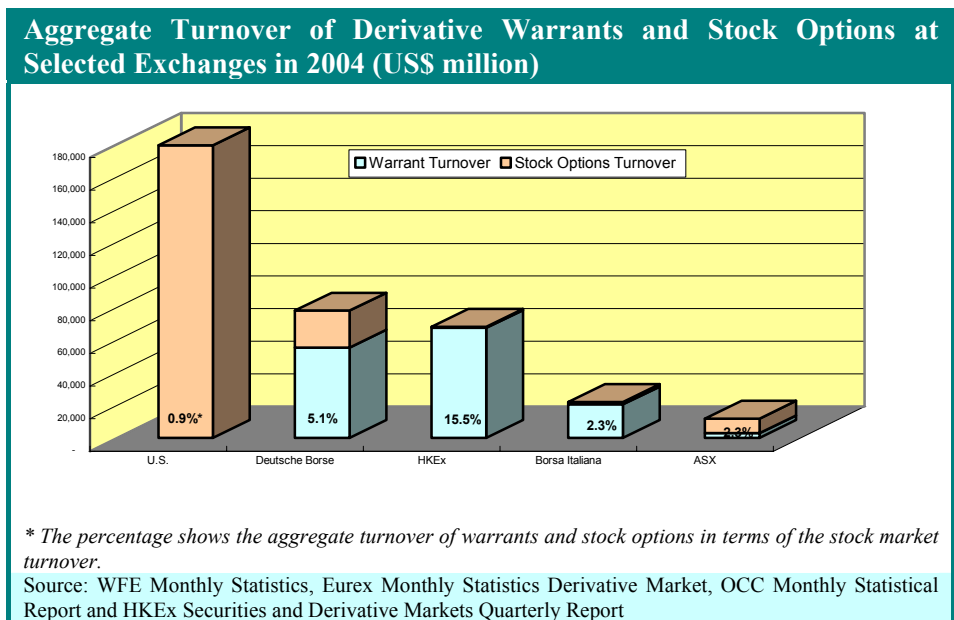
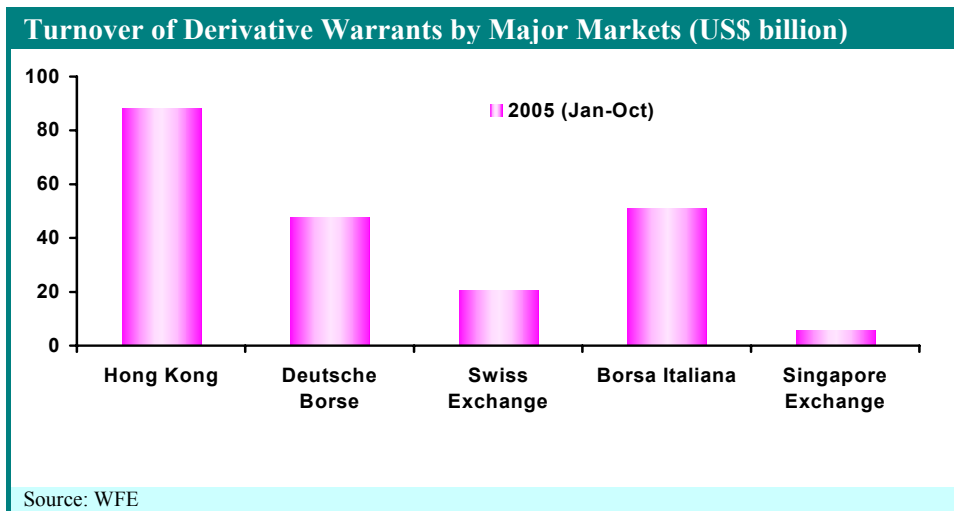
International comparisons

46. The average daily turnover of Hong Kong's markets from January to October this year was HK\$18.3 billion. Derivative warrants contributed HK\$3.3 billion or 18% of the total market turnover. In comparison –
- (1) turnover in the HSI constituent stocks contributed HK\$7.4 billion, or 41% of the market total;
 - (2) turnover in H-shares contributed HK\$3.8 billion, or 21% of the market total; and
 - (3) turnover in red chips contributed HK\$2.5 billion, or 14% of the market total.
47. According to the World Federation of Exchanges (WFE), trading of derivative warrants on the Hong Kong market is the most active in the world. The turnover from January to October this year was US\$88.2 billion, representing 18% of the total market turnover.
48. Borsa Italiana and Deutsche Borse were the second and third most active derivative warrants markets in the world. Over the same period, their turnover was US\$51.2 billion and US\$47.8 billion respectively. Within Asia, the second most active derivative warrants market is Singapore with a turnover from January to October this year of US\$5.6 billion. It is worth noting that the turnover in Hong Kong's market was only a little less than that on Borsa Italiana and Deutsch Borse combined, while the turnover on the Singapore Exchange was only about 6% of Hong Kong's.
49. A further point worth noting is that despite the comparatively large turnover in Hong Kong's derivative warrants market, the number of derivative warrants listed was much lower than that of other major markets. As at the end of October 2005, there were 1,189 derivative warrants listed on the Exchange. According to the WFE, this is much lower than that of other major exchanges including Deutsche Borse (36,650 derivative warrants listed at the end of October 2005), Swiss Exchange (5,689), and Borsa Italiana (4,013).
50. As at the end of October 2005, the market value of all derivative warrants was HK\$3.8 billion. The combination of a high turnover and a small number of issues with relatively small market value implies a high turnover ratio.⁹ The turnover ratio of the derivative warrants market was about 78% in October 2005. This means that on average 78% of all outstanding units of derivative warrants changed hands in one day. The turnover ratio for HSI derivative warrants is particularly high – about 329% in October 2005. This ratio is even higher than that of the mini-HSI futures contract (153%). This indicates that a significant part of the trading of derivative warrants was day-trading where investors were taking very short-term views on the market. However, given the relatively high ratio it could equally suggest that some market participants might be intentionally boosting turnover.

⁹ Turnover ratio, in the context of derivative warrants, refers to the daily turnover of derivative warrants represented as a percentage of their aggregate market value. The market value of a derivative warrant is the value calculated by multiplying the number of outstanding units of that warrant (ie the number of warrants issued and held by investors) with its price. The aggregate market value of the derivative warrants market is the sum of the market value of all derivative warrants.

51. There follow two charts. The first compares the turnover in Hong Kong's derivative warrants market with that in other major derivative warrants markets around the world during the period January to October 2005. The second compares the combined turnover in the derivative warrants and stock options markets of some countries in 2004. Essentially, the charts show –

- (1) the turnover of Hong Kong's derivative warrants market was the highest in the world in terms of the dollar value traded; but
- (2) in terms of the aggregate turnover of derivative warrants and stock options, the U.S. market¹⁰ was the largest, followed by Deutsche Borse and then Hong Kong, although the ratio of Hong Kong's aggregate in these 2 markets to its stock market turnover was still the highest in the world.



¹⁰ Includes American Stock Exchange, Chicago Board Options Exchange, International Securities Exchange and Philadelphia Stock Exchange.

52. As shown above, compared with the stock options market, the derivative warrants market in Hong Kong is more dominating. It is worth noting that while our derivative warrants market is mainly a retail market, our stock options market is a more professional market with retail participation accounting for a mere 13% from July 2003 to June 2004, based on the latest Derivative Market Transaction Survey by HKEx. At the moment therefore, the two markets should not be seen as a substitute for one another.

CHAPTER III – THE EXISTING REGULATORY FRAMEWORK

Brief history of the regulatory framework

53. The first derivative warrant was listed on the SEHK in 1989. There were no specific rules for listing derivative warrants at the time, and so the listing was achieved by adapting the rules for listing equity securities. Eventually, separate rules were developed and incorporated in the Listing Rules to provide for the listing of derivative warrants, and ultimately a separate chapter was devoted to this (now Chapter 15A to the Listing Rules). These rules were reviewed and amended several times but continued to be primarily based on rules for listing equity securities. In 2001/2002 however the rules were significantly revamped so as to provide for a regime that catered more specifically to derivative warrants. It was also during this revamp that the chapter was expanded to provide for the listing of all structured products and not just derivative warrants.
54. Two events preceded the revamp (referred to in this paper as the 2002 reform) which are worth noting at this point.
- (1) First, in May 2001, the Exchange released a consultation paper seeking views on possible changes to provide for a regime that was tailor-made for derivative warrants rather than simply an adaptation of rules for the listing of equity securities.
 - (2) Secondly, in June 2001, the SFC issued a press release condemning certain practices that were then prevalent in the market whereby issuers were arranging for brokers, placing agents and investors to take up derivative warrants on the understanding that they would be repurchased by the issuer shortly after the placement and before the derivative warrants were listed. The repurchases would then be recorded on the SEHK as special trades on the first day of trading. The SFC felt such practices might deceive the market by giving a false and misleading appearance of the demand, price and trading activity in the derivative warrants and thus warned that disciplinary action might be taken against parties engaged in such activities. For 6 months after the issue of that press release,¹¹ no new derivative warrants were issued. As existing derivative warrants continued to expire, the number of derivative warrants listed on the SEHK continued to fall.
55. It was considered appropriate therefore to take action to “revive” the derivative warrants market, but with improved market integrity. At the same time it was crucial that any changes introduced were workable and effective in addressing the concerns at the time. It was decided therefore to implement the revamp in 2 stages. The first stage, which occurred in December 2001, involved introducing a number of rule changes on a temporary basis. These focused on eliminating rules that were widely viewed as inappropriate and not serving the intended purpose. At the same time, a working group was set up to monitor the effect of these changes on the market and identify possible approaches to the more controversial issues. Subsequently, in June 2002, most of these temporary rule changes were made permanent and a number of further changes were also

¹¹ The 6 months period was from the time of the press release to the time temporary changes were introduced in December 2001 (discussed later) to address the unacceptable practices.

introduced, including expanding Chapter 15A to cover all types of structured products (including therefore derivative warrants). This 2-stage approach allowed us to take immediate steps to address problems that we knew needed correction, whilst also giving us time to look into the more complex issues.

56. In the following paragraphs, we give a brief overview of the existing regulatory regime and the major changes introduced under the 2002 reform. We would note here that there have been no major changes to the regulation of derivative warrants since the 2002 reform.

Current regulatory regime

57. The regulation of derivative warrants is basically set out in Chapter 15A of the Listing Rules.¹² In addition, the SFC has issued guidelines regarding the use of marketing material in relation to derivative warrants. The main features of the regulation are highlighted below.

Underlying assets

58. The underlying asset of a derivative warrant can be a security, index, currency, commodity or any other asset or any combination of these.
59. Where the underlying is a single stock, it must be either an HSI constituent stock or one of the stocks on the list of single scheduled stocks published quarterly by the Exchange. Stocks are included in this list only if the portion in public hands has a market capitalization of more than HK\$4 billion.
60. Where the underlying is a basket of stocks, the stocks must be on the list of scheduled basket stocks published quarterly by the Exchange. Stocks are included in this only if the portion in public hands has a market capitalization of more than HK\$1 billion.
61. Where the underlying stocks are listed overseas, they must be listed on an exchange that is recognized by the Exchange.

Basic terms and conditions

62. A derivative warrant must have a minimum issue price of 25 cents. It must also have a minimum lifespan of 6 months and a maximum of 5 years. Most derivative warrants currently listed have a maximum lifespan of 2 years.
63. Where the underlying asset is a stock, the settlement price must be calculated by reference to the average closing price of the underlying stock for the 5 business days immediately preceding the date on which the warrant expires.

¹² Chapter 15A actually deals with all structured products and not just derivative warrants, but for the purposes of this paper, we limit our discussions to derivative warrants.

64. Settlement may be in cash or by physical delivery, save that where the underlying includes an index or an overseas stock, settlement must be in cash. For stamp duty reasons however, all derivative warrants are typically cash settled.¹³

Issuer requirements

65. The issuer –
- (1) cannot be a private company within the meaning of section 29 of the Companies Ordinance (or equivalent legislation overseas);
 - (2) must have a net asset value of more than HK\$2 billion;
 - (3) must either have a credit rating (which falls within the top 3 investment grades) or be an entity that is regulated by either the SFC, the HKMA or other recognized overseas regulators; or alternatively, it must have a guarantor who meets this criterion; and
 - (4) must have satisfactory experience in issuing and managing the issue of other instruments similar to the product it is proposing to issue, and satisfactory experience to manage the potential obligations under such product.
66. Additionally, the issuer must have adequate risk management systems and procedures. Most issuers tend to be international investment houses with adequate risk management practices.

Listing documents

67. The listing documents typically comprise a base listing document and supplemental listing document. The base document may be relevant to more than one product or product series and hence relevant to various issues, while the supplemental document relates to a particular issue.
68. The base document must include information about the issuer and guarantor (if any), its latest financial statements, the arrangements for providing liquidity¹⁴ and general information about the risks and return on the product.
69. The supplemental document must contain the terms and conditions and other specific information about the particular issue.
70. Issuers also have a continuing obligation to provide its up-to-date financial statements.

Other more significant requirements

71. Issuers must appoint a liquidity provider to provide liquidity in their derivative warrants.¹⁵

¹³ Stamp duty is payable on the transfer of “Hong Kong stock”. Because cash-settled warrants do not confer a right to take delivery of any shares but only a right to cash settlement, they are not regarded as falling within the definition of “stocks”, nor therefore “Hong Kong stocks”. Physically-settled warrants however confer a right to take delivery of shares and hence come within the definition of “stocks” and, hence, “Hong Kong stocks” if they are registered in Hong Kong.

¹⁴ The obligation to provide liquidity is discussed in greater detail later in paragraphs 76 to 81.

72. All dealings in a derivative warrant by its issuer and members of its group (other than direct business transactions)¹⁶ must be conducted via the liquidity provider and reported to the Exchange for dissemination to the market.

Guidelines on marketing material

73. Marketing material must –
- (1) be accurate and neither misleading nor biased;
 - (2) refer to the full terms and conditions in the listing documents; and
 - (3) include appropriate risk warnings, including that investors should make their own risk assessment and seek professional advice if necessary, that the price of products may fluctuate and that the products may expire worthless resulting in a total loss of the principal amount invested.
74. Marketing material is not pre-vetted by the SFC although regulators may respond to complaints. Issuers must also have their own internal vetting processes.

Major changes under the 2002 reform

75. In the following paragraphs, we discuss the major changes introduced under the 2002 reform, namely –
- (1) removal of the placement requirements and introduction of a liquidity provider system;
 - (2) abolition of the quota system;
 - (3) facilitation of further issues; and
 - (4) introduction of new reporting requirements.

Placement requirements and liquidity provider obligation

76. Before the 2002 reform, the Listing Rules imposed minimum placement requirements. Specifically, there had to be either a minimum of 50 places at the time of issue, each taking up at least HK\$100,000 of the issue, or a minimum of 100 places. Issuers were also prohibited from retaining more than 15% of the issue at launch, ie they had to have placed at least 85% of an issue at launch.
77. These placement requirements were based on similar rules for equity securities and intended to ensure liquidity. However, while such rules are crucial to ensuring liquidity

¹⁵ This means they had to appoint someone who would, throughout the lifetime of the derivative warrants, stand ready to quote bid and ask prices at which it would be ready to buy or sell.

¹⁶ Direct business transactions are transactions where an Exchange Participant acts for both the buyer and seller, and one of these is the issuer or a member of its group. In such cases it is the Exchange Participant that will have brought the two parties together. It should therefore be entitled to earn the commission on both sides. If the transaction is conducted through the liquidity provider on the market, the Exchange Participant will lose out on half the commission. Direct business transactions are nevertheless transparent to the market because they have to be reported to the Exchange who in turn disseminates such information to the market – see also paragraph 89.

in the equity market, they did not have a similar significance vis-à-vis derivative warrants. The following explains.

78. In the equity market, price is essentially determined by supply and demand. A wide shareholder base is therefore important as it ensures that a large enough number of persons will participate in subsequent trading and thus ensure fair price formation and liquidity. Mandating initial placement requirements is therefore crucial. In the case of derivative warrants however, while the availability of buyers and sellers affects price, other factors play a more significant role, as explained in paragraphs 29 to 32 above.
79. Secondly, market forces were already working to ensure liquidity. Essentially, investors tended to associate derivative warrants with their issuer and would shun issuers whose products did not have adequate liquidity. As a result, although not compelled to do so at the time, issuers were generally prepared to repurchase and resell their derivative warrants anyway as this created liquidity and thereby ensured the competitiveness of their derivative warrants. However, because there was no transparency in such activities, investors could not distinguish issuer repurchases and resales from genuine public demand.
80. Thirdly, the placement requirements were not serving their purpose anyway. Issuers typically placed their derivative warrants with a few large investors and then repurchased them before they were listed (as mentioned in paragraph 54(2) above). Issuers would also arrange with brokers to “rent a name” to meet the requirement of the minimum number of placees. In reality, issuers sometimes retained all the derivative warrants and then proceeded to sell them into the market when trading commenced.
81. In view of the above, the placement requirements were removed under the 2002 reform. In return, issuers were compelled to ensure liquidity by appointing a liquidity provider, whose activities were to be made readily identifiable. These changes basically reflected the reality of the old market, with minimal placing activities and issuers providing liquidity in their derivative warrants, except now with much better transparency. The specific changes were as follows –
 - (1) The minimum placement requirement was removed, as was the limit on the maximum amount that could be retained at launch. Theoretically therefore, an issuer could retain up to 100% of an issue at launch.
 - (2) Issuers were compelled to appoint a liquidity provider to provide liquidity for their derivative warrants. The liquidity provider could be the issuer itself, another company within its group or an independent third party, but it had to be an Exchange Participant. Different liquidity providers could be used for different derivative warrants, and one liquidity provider could act for more than one issuer. However, there could only be one liquidity provider per derivative warrant, although a different back-up liquidity provider could be appointed for contingency.
 - (3) Liquidity providers were free to use any model for providing liquidity that they wished, but at a minimum, they had to respond to requests for quotes.¹⁷ They

¹⁷ This means that if an investor is looking to buy (or sell) a derivative warrant and there are no sellers (or buyers) in the market, he can ask the liquidity provider to quote a price at which it is ready to sell to (or buy from) the investor.

could therefore operate a continuous quotes system, but were not compelled to do so.¹⁸

- (4) To enhance transparency, each liquidity provider would have a unique 4-digit broker identification number with a “95” prefix, (ie “95XX”). Trades through them would thus be readily identifiable. Moreover, all proprietary dealings in a derivative warrant by the issuer and its group companies (other than direct business transactions) would have to be conducted through the liquidity provider.
- (5) The listing document had to disclose the identity of the liquidity provider, the system for providing liquidity that it proposed to use and details of its obligations as liquidity provider ie the standards for providing liquidity that it undertook to meet.

Quota limits

82. Before the 2002 reform, the Listing Rules imposed a quota on the number of shares of a Hong Kong listed company that could be the subject of a derivative warrant issue, namely 20% of the issued shares or 30% of the public float, whichever was lower. The temporary rule changes in December 2001 retained this quota system, but restricted issues to a maximum size of HK\$100 million. In June 2002, when most of the temporary rule changes were made permanent, both the quota system and the restriction on the maximum issue size were removed. The following explains why.
83. The quota system was adopted at a time when issuers tended to issue collateralised derivative warrants. The concern at the time was that the stock kept as collateral would not be available for trading until the derivative warrant was exercised or expired.
84. Over time however, issuers tended to issue non-collateralised derivative warrants. Indeed, today, all derivative warrants listed on the SEHK are non-collateralised. The quota system was nevertheless maintained. The concern then was that if too many derivative warrants were issued, this might affect the price of the underlying stock.
85. The proposed removal of the placement requirements under the 2002 reform reopened the question of whether the quota system should be maintained. With the removal of the placement requirements, issuers, when determining the size of an issue, would no longer be constrained by either the number of places they could locate or the amount of derivative warrants they could place at the time of launch. They would tend therefore to increase the issue size, thus using up the quota more rapidly and potentially creating a shortage in supply. As discussed in paragraph 36 above, supply-demand imbalances could in turn create price anomalies, ie the price of derivative warrants could potentially be driven up – not because of an increase in their value, but simply because demand outweighed supply.
86. An obvious solution therefore was to remove the quota system altogether, but this was controversial and hence needed further consideration. In the meantime, to prevent fast

¹⁸ A continuous quotes system is one where the liquidity provider would be quoting bid and ask prices on a continuous basis, ie irrespective of whether or not anyone has requested a quote.

utilisation of quota, a maximum limit of HK\$100 million on the issue size was imposed as part of the temporary rule changes introduced in December 2001. Subsequently, in March 2002, a fairly complicated procedure to monitor and control the utilisation of quota was introduced. The procedure was however extremely complicated and it was in any event not in the interests of issuers to make an issue that was so big that they could not manage the execution risk. Consequently, in June 2002, after careful consideration, the quota system was removed altogether. With the quota system gone, there was no need to set a maximum issue size and hence this limitation was removed as well.

Further issues of derivative warrants

87. Before the 2002 reform, issuers were able to launch further issues of their derivative warrants so as to enable them to meet demand arising after the initial issue and listing. There were however several restrictions. The 2002 reform relaxed some of these restrictions. Specifically –
- (1) Previously, further issues were only possible if an issuer did not hold *any* derivative warrants of an existing issue in the same series,¹⁹ ie if they were all held by investors. Under the reform, further issues were permitted if the issuer held up to but no more than 20% of an existing issue in the same series.
 - (2) Previously, there was no limit on the number of further issues that an issuer could launch but the aggregate value of all further issues in the same series could not exceed HK\$50 million and as a result there would typically be one further issue only. The reform however removed this HK\$50 million limit. Initially, a maximum limit of HK\$100 million *per* further issue was imposed, but this too was removed when the rules were made permanent in June 2002 – in line with the imposition and removal of the maximum limit for initial issues (see paragraphs 82 to 86 above).
 - (3) Previously, there could not be a further issue within the 6-month period preceding the expiry of the derivative warrant series. This restriction too was removed so that further issues could be made at any time prior to expiry of the derivative warrant.
88. The main reason for these changes was to support the new liquidity provider system. That system required liquidity providers to at least respond to requests for quotes. If the liquidity provider ceased to hold any more derivative warrants, it would only be able to respond to requests for purchase quotes and not for sales quotes. Secondly, if further issues were not permitted until after the issuer's existing holding reached zero, and in the meantime demand outweighed supply, this could result in price anomalies (as explained in paragraph 36 above). The changes discussed in paragraph 87 above addressed both these problems.

¹⁹ To clarify, derivative warrants are in the same series if they are issued by the same issuer and their respective terms and underlying are identical.

New reporting requirements

89. A further change under the 2002 reform was to strengthen the reporting requirements so as to enhance transparency in the issuer's activities. The main objective here was to ensure that investors were able to identify an issuer's trades in its own derivative warrants, and thus distinguish these from genuine investor demand for the derivative warrants. The new reporting requirements included the following –
- (1) dealings in a derivative warrant by its issuer, or any of its group members, must be reported to the Exchange by 9 a.m. the following day (ie one hour before trading begins the following day);
 - (2) grey market activities in a derivative warrant by the issuer, or any of its group members, must be reported to the Exchange by 9 a.m. on the first day of listing;
 - (3) direct business transactions must be reported to the Exchange within 15 minutes of the trade.
90. The above information would then be disseminated by the Exchange to the public.

Other less significant changes

91. Two further changes under the 2002 reform are worth noting. First, the minimum issue size was reduced from HK\$50 million to HK\$10 million. It was felt that this was essentially a commercial matter and that issuers should therefore be allowed greater freedom in this regard. Secondly, the listing documents were also simplified. The focus here was to remove obligations to disclose information which was either not relevant or already widely known. Such obligations were unduly burdensome to issuers and did not in any event serve to advance investors' interests.

CHAPTER IV – MARKET CHARACTERISTICS AND PRACTICES

92. One of the concerns relating to derivative warrants is the practices and behaviour of issuers and liquidity providers. Many considered that they were not discharging their responsibilities properly. There were also suggestions of price manipulation and other misconduct on their part. Market misconduct and practice was therefore one of the key areas that we focused on for the purposes of this review. In this Chapter, we set out some of the more prevalent market practices that we have identified and our concerns regarding them.

Background information

Growth in issuers' derivative warrant trading activities and concerns this raises

93. Since the re-launch of the derivative warrants market in 2002, the SFC has been actively monitoring the trading activities in that market. This includes conducting focused reviews of the derivative warrant trading activities of specific issuers.
94. We have observed a significant growth in issuers' trading activities in the derivative warrants market. Given this, and given that derivative warrants are complex products, and thus suited only to investors who have a good understanding of them, we are particularly concerned as to whether unsophisticated investors are being attracted to invest in this market, and if so, whether the practices used in this regard are acceptable or need to be restricted or curbed in any way.

Trading in derivative warrants dominated by issuers

95. Derivative warrant issuers dominate trading activities in their own derivative warrants (see paragraph 38 above). The readiness of the liquidity provider to participate to such a large extent attracts investors as they then see the market as being full of liquidity and trading opportunities. This in turn further increases liquidity in the market.

Investors' behaviour

96. Although derivative warrants can be used as a risk management tool, they are more commonly used by retail investors in Hong Kong as a short-term speculative instrument. While the latter is a legitimate use, it may not really be suited to unsophisticated investors given the complex pricing mechanism.
97. Secondly, unsophisticated investors also tend to place far more emphasis on the turnover in a derivative warrant than on its pricing mechanism. They rely heavily on the daily turnover as a guide for assessing liquidity without fully understanding why a particular derivative warrant might suddenly have become popular.

Potential for misconduct and unacceptable market practices

98. Competition is keen among derivative warrant issuers as they are offering products that are very similar and sometimes even identical in nature. They compete vigorously to

attract investors to buy their products. Given this, and given investors' attraction to turnover, boosting daily turnover in a particular derivative warrant becomes an effective way to attract investors. It is sometimes difficult to distinguish between legitimately high turnover and turnover which could be falsely generated, perhaps to give the illusion of strong liquidity and attract retail investors.

Enforcement action

99. Since 2002 and, in particular, in the last twelve months, our Enforcement Division has commenced a number of investigations about activities in the derivative warrants market including possible false trading, fixing of the settlement price during the expiry process, non-compliance with the liquidity providing obligations and illegal short-selling of warrants.
100. The majority of these cases are at a relatively early stage of the investigative process. It is, therefore, likely to be some months before there are any public outcomes by way of prosecution or disciplinary action, if such action is justified on the evidence. While it is premature for us to reach conclusions in individual cases, we have identified certain features which are common to a number of our investigations.

High concentration of derivative warrant trading among some small and medium sized brokerages

101. A number of small and medium sized brokerages were very active in the derivative warrants market. In some cases, over 80% of their aggregate turnover is accounted for by trading in derivative warrants. Moreover, only a small number of clients account for the bulk of the activities.

High turnover largely attributable to active day trading

102. The majority of these clients only conduct day-trading. Millions of units of derivative warrants are bought and sold within seconds at around the same price. Such "pair trading" is repeated many times during the day but towards the end of the day these positions are all squared.
103. Some of these very active clients trade a wide variety of derivative warrants covering a range of different underlying stocks. Others trade only the derivative warrants of specific issuers. In many instances, it is difficult to discern any developed trading or risk management strategy being implemented by them. At face value, these clients appear intent only on taking advantage of a number of current market practices which encourage high volume day trading. These are –
- (1) the tight spread quoted by liquidity providers (usually in the first couple of weeks after the launch of a warrant), which effectively reduces transaction costs for the clients;
 - (2) the commission rebates offered by issuers to brokers and which are passed on to these clients, thus helping to further reduce their transaction cost; and

- (3) the readiness of some brokers to charge low commission rates or to allow clients to trade unlimited quantities of derivative warrants for a fixed nominal commission payment.

Concerns about active day trading and high turnover

104. The large scale participation of a relatively small number of day traders in any derivative warrant can rapidly increase the daily turnover of that warrant. As noted above, that turnover of itself appears to attract many less experienced investors to the market. As turnover increases, so issuers can sell more derivative warrants into the market. In this way, we believe issuers seek to recoup the commission rebates they are prepared to offer to brokerages and potential loss from offering tight spread in return for business.
105. In some cases, questions have arisen as to whether there are any undisclosed or illicit arrangements between particular issuers on the one hand and particular brokerages or particular day traders on the other hand which are designed to create a false or misleading appearance of active trading or of turnover in particular derivative warrants. Our investigation continues in this area.

CHAPTER V – ASSESSING MARKET IMPACT

106. Another concern raised about the increased trading activities in our derivative warrants market is that they were increasing market volatility and hence systemic risk in our stock market. In this Chapter we examine the possible impact of the derivative warrants market on the overall stability of the Hong Kong stock market.

Scope of review

107. In assessing market impact for the purposes of this report, we focused primarily on the following 3 matters –

- (1) the general level of volatility of the underlying stock market – and we considered this both in terms of the volatility of the HSI and the volatilities of some of the more popular underlying stocks;
- (2) the relative size of the derivative warrants market as compared to that of the underlying stock market; and
- (3) the impact on underlying stocks as derivative warrants approach their expiry and the issuers begin to unwind their holdings in the underlying stocks.

Market Volatility

108. There are different ways to assess the stability of a stock market. One way is to look at the volatility of its benchmark index and at the volatility of some of the leading stocks which account for a significant weight in the index over a period of time, and analyse the level and patterns of such volatility.²⁰

Volatility declining globally since 2003

109. The following 2 charts show the implied volatility of the following indices and stocks from January 2000 to October 2005²¹ –

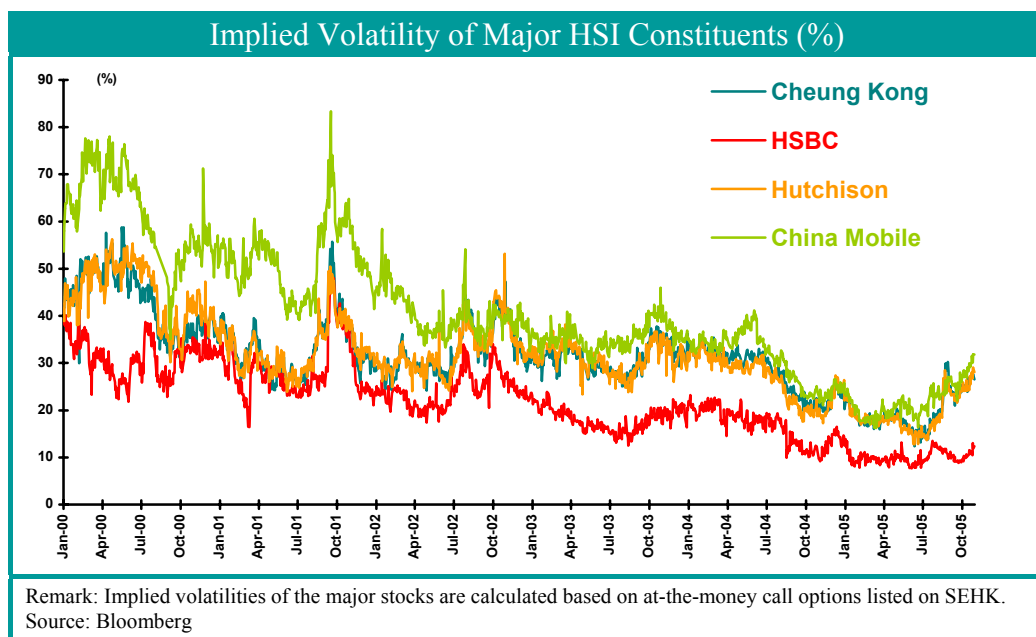
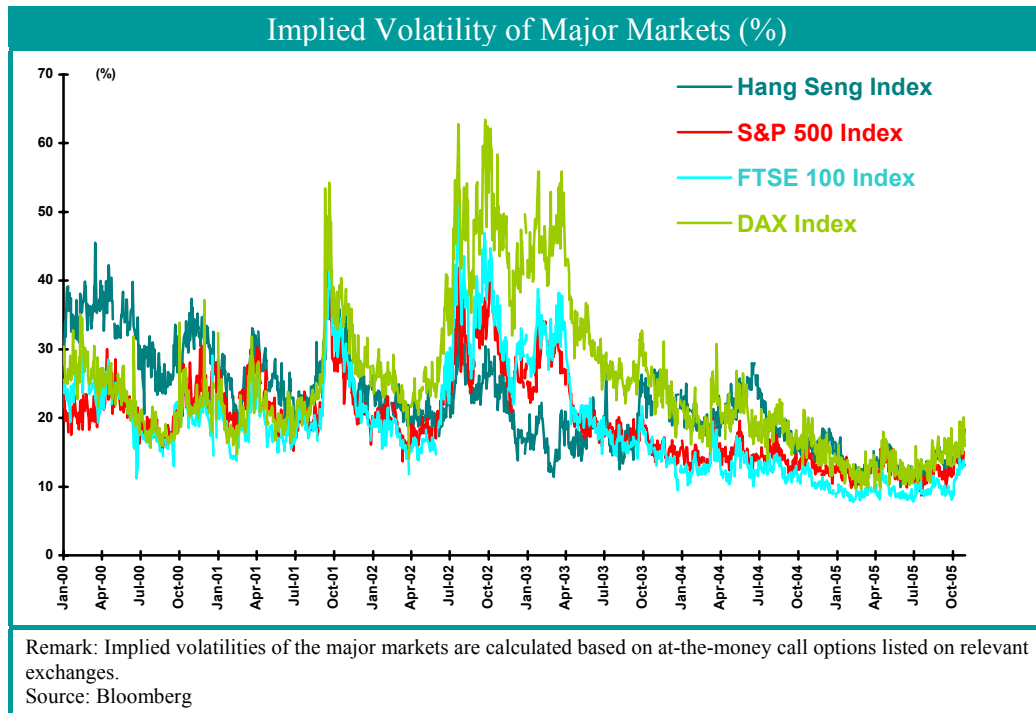
- (1) the market indices of the major stock markets in the world; and
- (2) the major HSI constituents.

110. As one can see, the implied volatility of the market indices of the major markets, including the HSI, has been declining over time since early 2003. If we look at some of the major blue chip stocks which are the popular underlying stocks for derivative warrants, a similar trend can be seen, particularly in the case of HSBC which currently accounts for about 30% of the market capitalization in the HSI.

²⁰ Volatility measures the amount of variability in the returns of a particular asset. In statistical terms, it is the standard deviation of the returns of an asset over a defined period of time.

²¹ The charts plot the implied volatility as was estimated at different points in time during January 2000 to October 2005. In other words, they are a record of what was perceived by the market, from January 2000 to October 2005, as being the volatility of the particular index or stock in question.

111. A point to note is that this trend of declining or low volatility occurred over a period when our derivative warrants market was seeing a significant growth. (See the chart under paragraph 45 above.)



Reasons for declining volatility

112. The obvious question that arises is: what has caused this decline in volatility in the world’s major stock markets? We believe there are a number of factors that have contributed to this phenomenon.

113. First and foremost is the low interest rate environment which many economies have experienced in recent years. Low interest rates have boosted corporate earnings and strengthened corporate balance sheets. Both these in turn support stock prices and reduce volatility.²²
114. Secondly, the availability of abundant liquidity and easy credit under a low interest rate environment has supported asset prices in general, including stock prices. Again, this has helped lower volatility.
115. Thirdly, the low interest rate environment may have encouraged many market participants to sell options, and thereby sell volatility,²³ because this tended to boost their income and return. Investors also *implicitly* sell options when they invest in equity-linked products with embedded option features. With more sellers of volatility in the market, the level of volatility has been pushed down.
116. Fourthly, there are more investors (in particular, hedge funds and proprietary desks of financial institutions) looking for arbitrage opportunities. Such opportunities are therefore promptly corrected, thus reducing chances of mis-pricing and price anomalies and, consequently, contributing to the lowering of volatility in major markets.
117. The Hong Kong stock market, being an international market, has been equally affected by the global phenomenon described above.

Interplay Between Derivative Warrants and Other Financial Products

118. In view of the high level of turnover in our derivative warrants market, there has been much discussion as to whether the activities in that market (and in particular hedging activities of issuers) increase volatility in our stock market and thus undermine its stability.
119. Our review indicates that while the hedging activities of warrant issuers can tend to add directional pressure on the stock market, hedging by issuers of equity-linked instruments and similar products tends to have an opposite effect with the result that the two hedging activities tend to stabilize one another. The following explains.

Hedging by issuers of derivative warrants – tends to add directional pressure on market

120. Issuers need to manage the risks arising from issuing derivative warrants. Where the underlying asset is stock, this will often involve their looking to buy stocks when the market goes up and sell stocks when the market goes down.²⁴ Such hedging activities

²² Essentially, the better earnings and balance sheets enable stock prices to maintain a steady trend. This means less fluctuations in stock prices and hence lower volatility.

²³ In technical terms, by buying options, one buys volatility and by selling options, one sells volatility.

²⁴ To clarify, issuers of both Call and Put warrants should buy stocks when the market goes up and sell them when the market goes down for the purpose of conducting hedging activities. In the case of *Call warrants*, issuers face an upside market risk, ie they will suffer losses in their Call warrant positions when the underlying stocks move up. To reduce this risk, issuers usually hold the underlying stocks as hedges. If the market goes up, their holdings in the

have the tendency to add directional pressure on the market – ie if the market is already rising, such additional buying pressure will tend to push it to continue rising even further; similarly if the market is already falling, such additional selling pressure will tend to push it to fall even further.

Hedging by issuers of equity-linked instruments – tends to stabilise market

121. Like many leading markets in the world, Hong Kong's financial market is well developed and advanced. There are many types of participants in the market such as investment banks, commercial banks, mutual funds, hedge funds, pension funds, as well as retail and other corporate investors. Financial institutions also offer a wide range of financial products to meet the different needs, risk appetites and other preferences of this diverse group of participants.
122. In recent years, due to the low interest rate environment, there has been a significant growth in demand for equity-linked instruments as investors look for yield enhancement products. The return on an equity-linked instrument depends on the performance of its underlying stocks. In the case of the more popular form of equity-linked instruments, investors are required to buy the worst performing stock in a basket of blue chip stocks from the issuer of the equity-linked instrument if the price of that stock falls below a predetermined level at maturity. In essence therefore, by buying this type of equity-linked instrument, an investor writes a put option in favour of the issuer. The issuer, having bought this option, look to hedge its position by adjusting its holdings in the underlying stocks from time to time based on changing market conditions.
123. Issuers of derivative warrants sell options (and thus volatility) to investors, while issuers of equity-linked instruments buy options (and thus volatility) from investors. Consequently, in hedging their positions, issuers of equity-linked instruments will do the opposite of what issuers of derivative warrants will do. So, while issuers of derivative warrants look to buy the underlying stocks when the market goes up and sell them when the market goes down, issuers of equity-linked instruments look to sell the underlying stocks when the market goes up and buy them when the market goes down.
124. The two hedging activities thus provide a stabilising effect on the market.

underlying stocks will make a profit which can be used to offset the losses of Call warrants. During a rising market, the chance of Call warrants being exercised increases (and thus the potential losses to the issuers become higher). To hedge the increased risk, issuers need to buy more shares of the underlying stocks in the market. On the other hand, in a falling market, Call warrants are less likely to be exercised and consequently, issuers need to sell some of their holdings in the underlying stocks. In summary, issuers of Call warrants need to buy the underlying stocks in a rising market and sell the underlying stocks in a falling market. Issuers of **Put warrants** have a downside market risk, ie they will suffer losses when the underlying stocks go down. To reduce this risk, issuers should hold a short position in the underlying stocks as hedges. In other words, when the underlying stocks go down, the Put warrants will lose, but the short position in the underlying stocks will gain which can be used to offset the losses of Put warrants. In a rising market, there is less chance that Put warrants can be exercised. Issuers therefore should reduce their short position in the underlying stocks by buying back some shares. On the contrary, when the market moves down, the Put warrants are more likely to be exercised. Issuers need to increase their short position in the underlying stocks to offset the increased risk and thus they should sell more shares of the underlying stocks. In conclusion, issuers of Put warrants need to sell more shares when the market moves down and buy shares when the market goes up in the course of their hedging activities.

Structured notes market – survey and market estimates

125. In May 2005 the SFC conducted a survey on the retail structured notes market, covering both equity-linked notes and credit-linked notes. The survey found that these products are usually sold to retail investors by commercial banks through their various branches.
126. The aggregate issue size of the retail equity-linked note market was about HK\$16 billion from 1 June 2003 to 15 June 2005. However, it is important to note that the retail equity-linked note market is only a small part of the whole equity-linked instrument market. The majority of equity-linked instruments are sold through the private banking and wealth management networks of commercial and investment banks. According to some market estimates, the size of the entire equity-linked instrument market could be as high as 10 times the retail notes segment (ie about HK\$160 billion). In the first 10 months of 2005, the total issue size of the derivative warrants market was about HK\$130 billion.
127. Because of the opposite hedging needs in managing a derivative warrant position and an equity-linked instrument position, from the standpoint of risk management and operation, some issuers have found it more efficient and profitable to participate in both markets.

Observations

128. It would appear therefore that, at the market level, the existence of a significant equity-linked instrument market has enabled our stock market to be more resilient by absorbing market pressure coming from the derivative warrants market. At the issuer level, participation in both markets lessens the extent of issuers' reliance on the stock market in managing their market risk when the market moves.

Relative Market Size of Derivative Warrants

Assessing impact if entire issue hedged solely by holding underlying asset

129. Another means of assessing the potential impact of hedging activities relating to derivative warrants on the stock market is to estimate, on a stock by stock basis, the theoretical total number of shares of the underlying stocks which all issuers must hold if they want to maintain a delta neutral position in respect of their derivative warrants. This of course assumes that they use the underlying stocks as the *only* hedging tool.
130. We have recently conducted such a study. The results indicate that the theoretical total number of shares of underlying stocks that would have to be held to fully hedge the risk arising from the issue of derivative warrants is small relative to the number of outstanding shares of the underlying stocks in the market. Specifically –
 - (1) In respect of the 6 largest HSI constituent stocks (ie HSBC, China Mobile, Hutchison, CNOOC, Hang Seng Bank and Cheung Kong Holdings), the theoretical total number of shares needed to be held by issuers, as at the end of

October 2005, ranged from 0.1% to 1.6% of the outstanding shares in the market.²⁵

- (2) Similarly, for the 6 largest HSCEI constituent stocks (ie PetroChina, Bank of Communications, Sinopec, China Life, China Telecom and Ping An Insurance), the theoretical total ranged from 0.3% to 2.6%.
- (3) As for derivative warrants on the HSI and HSCEI whose aggregate turnover accounted for about 59% of the total turnover in the derivative warrants market in October 2005, the theoretical total number of corresponding futures contracts held²⁶ was about 1.6% of the open interests of the futures markets.²⁷

Hedging on portfolio basis

131. In practice, most issuers manage the market risk relating to their derivative positions on a portfolio basis, ie by pooling all derivative instruments including both exchange-traded products (such as listed derivative warrants, listed stock options, listed index futures and listed index options) and over-the-counter products (such as unlisted structured notes, over-the-counter options, equity swaps, etc) together and assessing the net risk exposure. As a result, the actual number of shares of underlying stocks which they need to hold would likely be less than the theoretical number estimated by ignoring the portfolio effect. In other words, the actual total number of shares of underlying stocks that issuers must hold in order to maintain a delta neutral position in respect of the derivative warrants issued by them is likely to be less than the theoretical range indicated in paragraph 130 above.

Comparable markets

132. As at the end of October 2005, the market value of all derivative warrants was HK\$3.8 billion, representing about 0.05% of the total market capitalization of the stock market. However, the turnover ratio of the derivative warrants market (measured as its average daily turnover as a percentage of its average market value) was about 78% in October 2005. This number seems high when compared to similar ratios of other exchange-traded derivative products which are also based on the HSI and individual stocks. For example, the turnover ratios in the HSI futures, HSI options and stock options markets were 42%, 5.9% and 3.2% respectively in October 2005.

Impact of day-trading

133. A further point to note is that the high frequency of day-trading and the quick turnaround time for some trades in derivative warrants may have caused some issuers not to adjust their hedging positions as frequently as they would otherwise have been required to by their risk models. This is so as to minimize hedging costs. However, it also has the

²⁵ The number of outstanding shares in the market refers to the number of shares issued by a company.

²⁶ Issuers of index derivative warrants tend to use index futures on the same underlying asset for hedging as they are one of the cheapest hedging tools available in the market.

²⁷ Open interest of a futures contract is the total number of contracts outstanding in the market and is therefore analogous to the number of outstanding shares of a stock in the share market.

effect of reducing the potential impact of hedging activities on the underlying stock market.

Observations

134. It appears therefore that although turnover in our derivative warrants market is high, the size of the derivative warrants market in terms of market value and the potential resultant percentage of outstanding shares of underlying stocks required in hedging activity is relatively small. There is no evidence to suggest that the derivative warrants market currently poses systemic risks for the stock market.

Impact of Unwinding Activities at Expiry

135. A particular area of concern, which we have been monitoring relates to the unwinding activities of issuers as their derivative warrants approach expiry.

Potential impact of unwinding reduced by 5-day period for calculating settlement price

136. Issuers need to unwind their hedges upon the expiry of their derivative warrants. At expiry, derivative warrants are settled based on the average of the closing prices of the underlying stocks during the last five trading days prior to the expiry. This approach has 2 advantages. First, it induces issuers to spread out their unwinding activities over the 5-day period, thus reducing the potential impact of unwinding activities on the underlying stocks. Secondly, it makes it more difficult for anyone to try to manipulate the settlement price.

Potential impact of unwinding reduced by investors' sale back activities

137. At the same time, investors tend to sell derivative warrants back to their issuer as the expiry date approaches. This allows them to lock in their profits or cap their losses. Such activity tends to accelerate in the period leading to the commencement of the 5-day averaging period for calculating the settlement price. The consequent decline in the number of derivative warrants held by investors will in turn cause issuers to gradually reduce their positions in the underlying stocks. This also contributes to reducing the potential impact on the underlying stocks at or near expiry.
138. The table below shows the number of units of derivative warrants remaining in investors' hands shortly before expiry or the said 5-day averaging period. For example, 23 derivative warrants issued over the HSI expired in October 2005.
- (1) In the case of 14 of these, the quantity held by investors prior to expiry was less than 40% of that held at its peak, with 11 in fact ranging from only 0% to 20% of their peak levels.
 - (2) As for the remaining 9, the outstanding units exceeded 40% of the peak and 7 expired out-of-the-money. This means that the unwinding activities arising from these out-of-the-money warrants should not have any impact on the underlying stock market.

A similar phenomenon was observed for derivative warrants issued on HSBC and Hutchison.

Outstanding units of derivative warrants at peak levels and prior to expiry					
Under-lying	Number of warrants expiring in October 2005	Number of warrants outstanding prior to expiry is < 40% of peak levels	Of which, Distribution of warrants – Range (Number of warrants)	Number of warrants outstanding prior to expiry is >= 40% of peak levels	Of which, Number of warrants which were out-of-the-money
HSI	23	14	0-20% (11) 21-40% (3)	9	7
HSBC	9	7	0-20% (2) 21-40% (5)	2	2
Hutchison	11	8	0-20% (5) 21-40% (3)	3	2
Total	43	29		14	11
Remark: Exotic warrants and warrants which do not have outstanding units during the lives of the warrants are excluded from the analysis. Source: SFC					

Observations from previous unwinding of large sized derivative warrants

139. Past experience of large-sized derivative warrants indicates a tendency for the number of outstanding units to decline significantly as the derivative warrants approach their expiry dates, such decline ranging from about 50% to 80% of their peak levels. In general, the previous unwinding activities in respect of large-sized derivative warrants did not seem to have affected the performance of the underlying stocks in a significant manner.

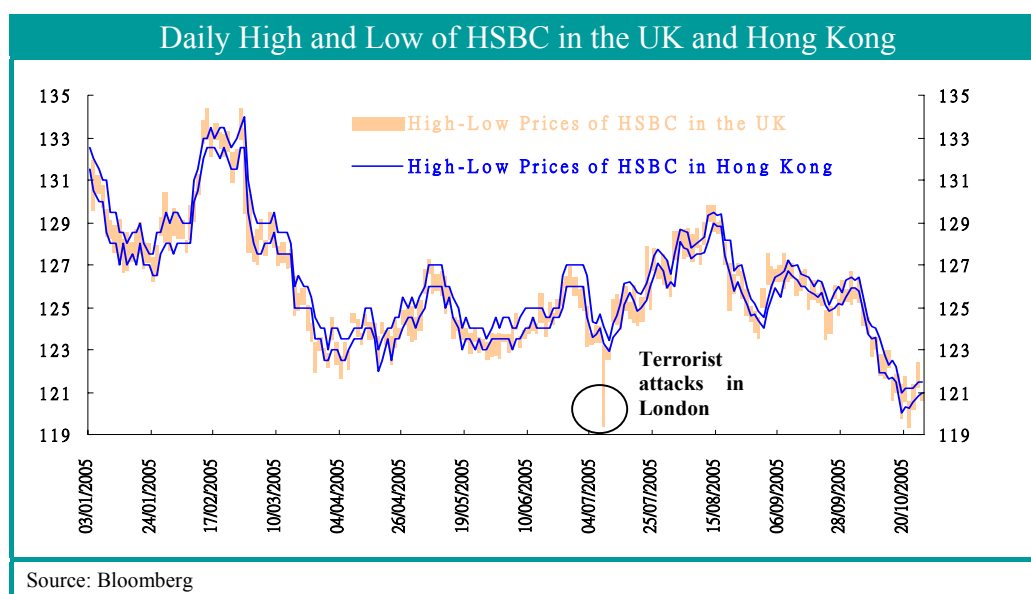
Other relevant factors

140. Apart from the size of outstanding derivative warrants (ie by the quantity remaining in investors' hands), another factor that will affect the quantity of the positions in the underlying stocks required to be held by issuers to hedge their positions is whether the derivative warrants are in-the-money, at-the-money or out-of-the-money. This is because, in theory, an issuer does not need to hold any significant position in underlying stocks at expiry for an out-of-the-money derivative warrant.

Measures for minimizing impact of unwinding activities

141. When approving the listing of derivative warrants, it is a practice of the Exchange to try to avoid derivative warrants over the same underlying assets and in the same direction expiring on the same day or within a very short time of each other. This practice helps to minimize the potential cumulative effect on the underlying stocks during the run up to expiry.

142. It is worth commenting here on earlier media reports suggesting that the share price of HSBC is under pressure due to large-sized warrants.
143. HSBC, which accounts for 30% of the market capitalization of the HSI constituent stocks, is traded in Hong Kong, the UK and the US. From January to August 2005, the majority (71%) of trading of HSBC was conducted in the UK, whilst 26% of trading was conducted in Hong Kong and about 3% in the US. In other words, HSBC being one of the leading international banking groups in the world is truly an international stock with its price being determined by the larger international investment community.
144. The chart below shows that the daily high and low prices of HSBC in Hong Kong in general coincides with those in the UK. This is the case throughout the year. There is no pattern or trend suggesting that the share price of HSBC in Hong Kong is consistently higher or lower than that in the UK. Given the huge market value of this stock (HK\$1,370.8 billion as of 31 October 2005), and the active trading by international investors, there is no evidence to suggest that the share price of HSBC would be significantly influenced by the activities of large-sized warrants issued in Hong Kong. In addition, the correlation coefficient of the daily closing prices of HSBC in the UK and Hong Kong from 4 January to 31 October 2005 was 0.97, indicating that the two are strongly positively correlated to one another.



Continuous Monitoring of Derivative Warrants Market

145. The stock market is a very complex and dynamic system. There are many different participants holding different views interacting with each other. The overall stability of the market is thus determined by a host of factors, in particular, the macroeconomic environment, the level of its benchmark index, and the general sentiment in the market. In view of the current size of the derivative warrants market and the current market dynamics (such as trading activities relating to equity-linked instruments and other similar products), one cannot conclude that hedging activities of derivative warrant issuers have adversely affected the stability of the market.

146. Given the size and growth of our derivative warrants market, the SFC will continue to monitor it, and other related markets, closely. We have in this regard developed a market risk monitoring system to assist in monitoring the overall stability of the markets and enhance our understanding of their dynamics. The monitoring system also enables us to understand the latest developments of the derivative warrants market and to identify possible exceptions in the market which might pose a threat to market stability. We will continue to enhance this system as the market develops further.
147. We also encourage the Exchange to continuously enhance its existing market monitoring system so as to perform its monitoring role as a market operator more efficiently and effectively.

CHAPTER VI – STRENGTHENING THE REGULATORY REGIME

148. In Chapter III we explained the key changes introduced under the 2002 reform and the rationale behind them. Recently, many in the market have called for a tightening of the Listing Rules, including the reconsideration of certain changes or relaxations introduced under the 2002 reform.
149. Our review of the existing market practices confirms that there is a need to strengthen some aspects of the existing regulation. However, we do not agree that all of the measures suggested are either necessary or appropriate. In this Chapter we discuss the specific areas which we believe need strengthening.

1 : Changes to the liquidity provider system

Liquidity provider and issuer

150. It is worth clarifying first that in the context of the following discussion on the liquidity provider system, the liquidity provider and the issuer are essentially one and the same. This is because a liquidity provider essentially acts as agent for the issuer when performing its role as liquidity provider and, in practice, it usually belongs to the same group of companies as the relevant issuer.

Role of liquidity providers

151. As mentioned earlier, the 2002 reform introduced the requirement for issuers to appoint a liquidity provider for every warrant issuance. It did not however prescribe how liquidity should be provided, nor set any minimum standards that should be met when doing so – except for specifying that certain board lot requirements be met, and requiring that any model or system used must, at a minimum, enable the liquidity provider to respond to requests for quotes. This was a deliberate policy choice made in the expectation that market forces would drive issuers to provide services beyond these minimum standards. Consequently, an issuer is basically free to set its own standards. It must however specify these standards in the listing document, including in particular –
- (1) its proposed model for providing liquidity, ie whether it will provide liquidity by responding to requests for quotes or on a continuous quote basis or some other method;
 - (2) its maximum response time, ie the maximum time it will take to submit a quote after a request is received – needless to say, if liquidity is provided on a continuous quote basis, bid and ask prices will be provided all the time;

- (3) the maximum spread between the bid price and ask price – this is usually expressed in terms of 10 or 20 spreads in accordance with the Exchange’s spread table;²⁸
- (4) the minimum size of bid orders and the ask orders – issuers generally commit to the minimum required by the 10 board lot rules; and
- (5) any exceptions, ie the situations in which the liquidity provider will not provide a quote – there are certain situations where the liquidity provider is not obliged to quote, such as when the theoretical value of a warrant has dropped to below 1 cent and (in the case of an ask order) when all the authorised²⁹ units have been sold.

152. The standards thus specified are essentially the minimum standards the issuer undertakes to meet. In reality however, liquidity providers are often prepared to quote far more favourably than these minimum standards. For example, although the issuer may have undertaken that the maximum spread between its bid and ask price will be 10 or 20 minimum spreads, the liquidity provider may be prepared to quote bid and ask prices with just one minimum spread. Likewise, although the issuer may have undertaken to quote for a minimum of 100,000 units, the liquidity provider may be prepared to quote for as much as 2 million units. The willingness of liquidity providers to provide a far more favourable level of service is not a problem per se. However, it does tend to create an expectation in investors that the high service level is the norm and will thus continue. Consequently, when the liquidity provider subsequently offers quotes that are more in line with what the issuer has undertaken in the listing document, and thus far less favourable to investors than before, investors feel aggrieved.

Multiple roles of liquidity providers problematic

153. A second problem identified concerns the multiple roles played by liquidity providers. A liquidity provider, as an agent for the issuer, may be performing any of the following functions –
- (1) Acting as a potential counterparty of last resort – When there is an absence of existing buy or sell orders in the market, a buyer or seller might find it impossible to trade without significantly adjusting the warrant price. As a result the warrant price can diverge considerably from its fair value, thus distorting the relationship between the derivative warrant and its underlying. By acting as a potential counterparty of last resort, the liquidity provider serves to reduce the chances of such distortion.
 - (2) Acting as a market maker – The role of a market maker is to consistently quote two-way prices in the market. Most market making regimes require more than one market maker for any one product because competition among market makers

²⁸ The spread table is specified by HKEx in the Second Schedule of the Rules of the Exchange . Basically it governs the smallest unit of price movement of a security. It varies in accordance with the current nominal price of the said security.

²⁹ Authorized units are the maximum number of units that the listing document of a derivative warrant specifies the issuer can issue. The number of authorized units can be increased if the issuer seeks further issuance subsequently.

ensures that the spread and quantity of quotes are fairly consistent most of the time. In the case of our derivative warrants market however, the spread and quantities rarely stay the same. There is also a lack of competition given that derivative warrants are proprietary products and their supply can only be controlled by the issuer of them. As a result, liquidity providers' role as market maker is not truly functional.

- (3) Distributing warrants on behalf of an issuer – Since the scrapping of the placement requirements under the 2002 reform,³⁰ issuers sell their derivative warrants through the SEHK's trading platform and are required to do this through the liquidity provider to ensure there is transparency as to which trades are on behalf of the issuer.
 - (4) Acting as proprietary trader on behalf of an issuer – The profit and loss generated from a liquidity provider's activities are generally taken up by the issuers. As such, trading in the form of very active liquidity providing is, in a sense, comparable to proprietary trading by issuers who are typically investment banks.
154. None of the above four functions guarantees a profit to the issuer. To ensure profit, the right business model must of course be used. This is perhaps particularly true in respect of the second to fourth functions listed above. For example, a market maker earns the spread when two counterparties trade with him simultaneously in a steady market. In a volatile market, the market maker can widen its spread to protect his own position. An issuer makes money by managing the risk relating to his position efficiently and economically, while a proprietary trader makes money if his assessment of the future direction of the market turns out to be correct.
155. The multiple functions of a liquidity provider mean it is not always possible for the outside observer to be sure of the purpose of the liquidity provider's actions. For example, where a liquidity provider appears to be selling warrants in large quantities into the market but at much lower prices, there could be a number of reasons for this –
- (1) the issuer may be adjusting the price to reflect a movement in the underlying asset;
 - (2) the issuer may equally be adjusting the price to reflect a change in its view on the volatility of the price of the underlying asset; or
 - (3) these may be trades executed on behalf of the issuer with the intention of manipulating the market.
156. Often however, in such circumstances, investors' perception tends to be that the issuer and/or the liquidity provider is manipulating the derivative warrant.

Active participation of liquidity providers and tight spread

157. Currently, some liquidity providers actively participate in the derivative warrants market. They often offer exceptionally tight spreads (ie the spread between their bid and ask offer

³⁰ See paragraphs 76 to 81 above.

is very close, very often at one minimum spread). These exceptionally tight spreads, when compared to the spread of the underlying that they represent, do not appear to make economic sense for the issuers. If the issuers have to adjust their risk exposure by delta hedging (ie by buying and selling the underlying asset), the much wider spreads in the underlying will make the exercise much more expensive and not economically justifiable. It would appear therefore that when liquidity providers provide tight spreads, they are, at least for a time, subsidising the frequent traders on behalf of the issuers. These subsidies become part of the operating cost for the issuers. It follows that issuers will have to recover the cost through other means, very often by later issuing derivative warrants at prices that are higher than otherwise necessary. That often means retail investors have to pay more when purchasing derivative warrants.

158. A further point to note is that tight spreads enhance liquidity in the market and attract turnover. As discussed in paragraph 97 above, unsophisticated investors tend to place much emphasis on turnover. Given this, the tight spreads effectively result in attracting retail investors who, without fully understanding the workings of derivative warrants, are attracted to a particular derivative warrant because of the high turnover in it. This promotes trading in a speculative manner among some investors. We further believe that the loss suffered by some issuers who offer such tight spread may ultimately be borne by investors in the form of more expensive derivative warrants. We therefore remain concerned about such tight spread activities and will continue to keep a close watch over them.

Use of external liquidity providers

159. A further point worth noting is that although most issuers tend to appoint companies within their own group as the liquidity provider (typically their local brokerage arm), there are some who rely on external liquidity providers. A main problem with issuer's appointing external liquidity providers is that they have less control over the liquidity provider's activities. They also have less incentive to closely monitor them as there is less reputational risk to the issuer.

Information on prices quoted by liquidity providers

160. There have been complaints by investors that some liquidity providers or issuers use the tactic of pushing derivative warrant prices up or down to benefit themselves at the expense of investors.
161. At present, the Listing Rules require an issuer to report its previous day's dealings in derivative warrants to the Exchange each day. This includes both its own dealings (as principal) and those of its related companies, the number of derivative warrants still outstanding in the market, the net number of derivative warrants bought or sold, and the average price per derivative warrant bought or sold. This information has significantly enhanced the transparency of the issuer's trading activities. However, in order to allow investors, market professionals and commentators to have sufficient information to evaluate whether the services provided by liquidity providers or issuers are fair and reasonable, we believe further information is needed from them.

162. A key factor that investors need to appreciate when investing in derivative warrants is the implied volatility. At present, some limited information on implied volatility (such as information about the day-end closing price) is available in the market or on the websites of issuers but there is no readily available information on intra-day prices.

Our proposals

163. The liquidity provider system is necessary to provide a distribution mechanism to issuers to sell their derivative warrants, and an exit mechanism for investors who wish to pull out from an investment in a derivative warrant. Hence, in the absence of a viable alternative, we do not believe scrapping the system is in the interest of investors.
164. However, in view of the matters discussed above, we propose –
- (1) tightening the minimum service levels for liquidity providers (ie those described in paragraphs 151(1) to 151(5) above);
 - (2) prohibiting the use of external liquidity providers; and
 - (3) requesting liquidity providers to disclose certain information relating to the intra-day prices executed by them on each derivative warrant.
165. The objective of tightening the minimum service levels is to restrict liquidity providers so that the actual service level offered by them cannot deviate significantly from the level undertaken in the listing document. This will encourage more realistic expectations on the part of investors and thereby reduce misunderstandings. We will work with the industry on which standards need tightening and to what extent. We welcome views in this regard.
166. As for the proposal to prohibit the use of external liquidity providers, this is in fact a suggestion from a number of issuers who responded to our questionnaire on the current liquidity provider obligations. We see benefit in considering this option. The role of a liquidity provider is to provide liquidity. By appointing external liquidity providers, issuers are able to distance themselves from the activities of the liquidity providers. Requiring them to appoint in-house liquidity providers will encourage issuers to supervise the liquidity provider's activities more closely and discourage the latter from misbehaving. For issuers who do not have a local brokerage arm in Hong Kong who are Exchange Participants, transitional arrangements will have to be considered.
167. We also propose requesting liquidity providers to disclose to the market information on the intra-day prices executed by them on each derivative warrant together with the associated implied volatilities and possibly prices of the corresponding underlying asset at day end so as to enable investors and the market in general to assess the quality of their liquidity providing services. This proposal will make it easier for investors to find this important piece of information. Information thus provided will have to be presented in a useful and user-friendly manner.
168. It is also hoped that the availability of this information will, over time, provide strong incentive to liquidity providers to offer better services to the market. Coupled with

investor education emphasising the importance of considering the implied volatility of derivative warrant prices, investors will be better equipped to compare different derivative warrants with similar terms over the same underlying asset and decide which derivative warrants by which issuers, if any, best suit them.

2 : Maintain status quo of having no quota system

Concerns about the quota system

169. In Chapter III we described the quota system that was in place prior to the 2002 reform. We explained how that system created supply-demand imbalances and was thus removed. A related concern about the quota system at the time was that it facilitated market manipulation over the price of a derivative warrant. It was believed that some market makers would corner the supply of a derivative warrant, ramp up the price by actively trading among themselves and then attract other retail investors (who, as mentioned above, were attracted to derivative warrants with high turnover) to buy the over-priced derivative warrant. This was especially apparent in cases where the issuers had completely sold their holdings of existing derivative warrants, and the quota under the quota system had been reached so that no further derivative warrants could be issued with the same underlying stock.
170. As discussed earlier, the temporary rule changes introduced in December 2001 retained the quota system and instead imposed a maximum issue size of HK\$100 million to prevent the fast utilization of quota limits. (See generally paragraphs 82 to 86 above.)

Interim measures taken in March 2002

171. Thereafter, practically all issues were set at the maximum size of HK\$100 million. Within a few weeks a number of stocks had already reached their quota limits with the result that no further derivative warrants could be issued in respect of them. However, the percentage of the existing derivative warrants actually in the market was quite low.
172. It was clear that the quota system coupled with the removal of the placement requirements were significantly hindering market development and market competitiveness, as once the quota was used up other issuers could not issue derivative warrants to compete with existing issues or meet investor demands. Accordingly, in early March 2002 (a few months before the second phase of the 2002 reform), the Exchange, with the SFC's approval, modified the Listing Rules to put in place a complicated set of procedures that would monitor the utilisation of quota limits and control the utilisation level. Essentially it was the level of derivative warrants in the market that would thereafter determine whether an issuer could issue a derivative warrant on a particular underlying asset – previously it was the issue size that determined this.

Eventual removal of quota system

173. The system worked in practice in that the number of underlying securities in respect of derivative warrants issued did not exceed the quota requirements. However, the procedure put in place to control quota utilisation was extremely complicated. Moreover,

it was in any event not in the interests of issuers to make an issue that was so big that they could not manage the execution risk. Consequently, the quota system was removed altogether in June 2002, as was the HK\$100 million limit on the maximum issue size.

Our proposal

174. We consider that having a quota system such as the one that was previously in place is not in the interest of derivative warrants investors as it hinders market competition and can discourage an issuer from making further issues in response to demand from investors. We do not therefore propose to reinstate such a system.
175. As to whether a quota system is needed to ensure market stability, we would note that the system has been absent now for over 3 years. Moreover, as discussed in Chapter V on Assessing Market Impact, notwithstanding its high turnover ratio, the size of the derivative warrants market is relatively small in terms of either its total market capitalization, or the size of the underlying shares required to hedge issuers' positions in the derivative warrants they issue.

3 : Facilitate further issues

Why further issues are necessary

176. As noted earlier, the 2002 reform introduced changes that allowed an issuer to make further issues if it held less than 20% of an existing issue, ie it no longer had to wait for its holdings to fall to zero first. The reform also removed the previous HK\$50 million aggregate limit on further issues. Some market commentators have criticized these relaxations, arguing that permitting further issues enables an issuer to control supply and hence influence the price of a derivative warrant. This however ignores the fact that allowing further issues is an expected, even necessary, aspect of the market as it was reformed in 2001/2002.
177. The fundamental plank of the 2002 reform was removing the previous placement requirements and replacing it with a liquidity provider system. The previous placement requirements were in any event not serving the purpose of ensuring liquidity and the liquidity provider system merely obliged issuers to do what they were already doing, namely providing liquidity by being prepared to repurchase and resell their warrants, except now with greater transparency.
178. Relaxing the previous restrictions on further issues was a necessary consequence of this fundamental change. The restriction on the aggregate size of further issues meant that issuers were unable to meet demand for a derivative warrant once the aggregate limit was reached. Likewise, the restriction preventing further issues so long as issuers held existing derivative warrants meant they did not have the flexibility to issue derivative warrants in anticipation of demand. Both restrictions therefore inhibited an issuer's ability to meet demand and thus needed to be relaxed. To further facilitate issuers meeting demand, the 6-month minimum life requirement was also relaxed so that it did not apply to further issues, thus enabling issuers to meet any demand for their short dated

derivative warrants. This was particularly important as other issuers would not be able to issue derivative warrants with similar maturity due to the minimum 6-month life rule.³¹

179. Secondly, an issuer who had sold all of an existing issue would be unable to provide two-way prices for its derivative warrants, and consequently, be unable to fulfil all its liquidity provider obligations. Moreover, without the discipline of having to quote two-way prices an issuer would no longer be subject to market forces if the prices it quoted moved significantly from the fair value. It would also be unable to ensure that the market price of the derivative warrant did not diverge from its fair value as determined by the factors discussed in paragraph 29 above.

Impact of no further issues on price

180. A further point to note is that whilst each derivative warrant issuer is free to set its prices for its derivative warrants, the market typically has a consensus as to the range of the volatility in the price of the underlying. This is a key factor in assessing the price of a derivative warrant. If an issuer is unable to make a further issue of a sold out derivative warrant, the issuer is unable to prevent the price of the derivative warrant deviating from the price suggested by this market expectation. If consequently the price is driven by demand for a derivative warrant that the issuer cannot meet, the derivative warrant will essentially be overpriced and as a result investors will be paying more than necessary. They will also be more likely to suffer losses when the price of the derivative warrant returns to a price that reflects the market's expectation as to the volatility in the underlying or that reflects the intrinsic value of the derivative warrant.

Example of price deviation resulting from lack of supply

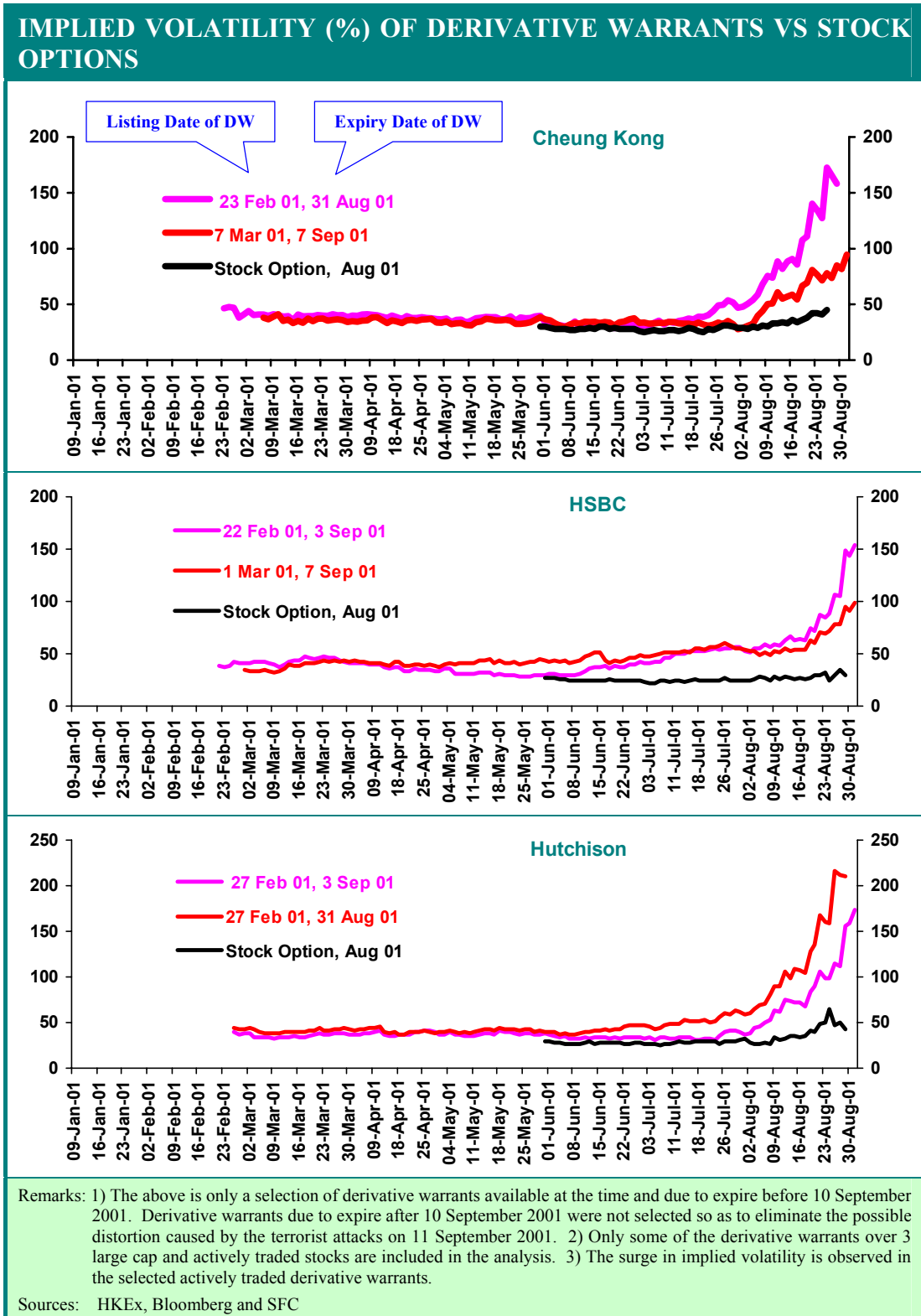
181. Experience suggests that in the absence of an appropriate supply of derivative warrants, prices deviate significantly from the fair value, as suggested by prices of other forms of derivative products over the same underlying.
182. The most extreme example of deviations in the price of derivative warrants was seen after June 2001 (when we issued the press release that resulted in issuers ceasing to issue new warrants)³² and before the market reopened in January 2002. The 3 charts below show the implied volatility of a number of derivative warrants (issued on some large cap and actively traded stocks) for the period from January 2001 to August 2001. (To remove the impact of the terrorist attacks of 11 September 2001, we have chosen to focus on derivative warrants which expired prior to that date.) As can be seen, there was a marked increase in the implied volatility between June 2001 and August 2001. In comparison, the implied volatility of comparable stock options over the same period showed no such increase.³³ As the number of derivative warrants available in the market decreased during

³¹ The Listing Rules require that derivative warrants have a minimum life of 6 months. Prior to the 2002 reform, this applied to the initial issue as well as further issues. The 2002 reform changed this so that the minimum life requirement now applies to the initial issue only.

³² See paragraph 54(2) above which discusses this press release.

³³ Comparable stock options refer to stock options that have the same underlying as the relevant derivative warrant. In the stock options market, no similarly tight restriction exists for market makers and investors to create new stock options.

this time, excessive demand from investors drove up the price of some popular derivative warrants to levels that were far higher than those suggested by other derivative products. As issuers were unable to offer further issues there was no mechanism to correct the significant price spike in these derivative warrants. As a result, the implied volatility rose, in some cases to over 100%. Investors, who purchased the derivative warrants at the higher prices, significantly over paid and therefore might suffer losses at maturity.



Other factors contributing to lack of supply

183. Even with further issues, supply may still be insufficient to meet demand because of 2 factors. First, there is the time taken to process a further issue, currently 4 days. This is a fairly long period and shortages in supply can easily arise during such a period particularly given that until the derivative warrants are listed, issuers cannot deliver them. Hence, the earliest they can sell the derivative warrants would be 2 days before their listing because there will not be any derivative warrants to meet delivery if sold earlier.³⁴ Secondly, although issuers can now hold its existing derivative warrants when making a further issue, they can hold no more than 20%. This 20% can be distributed in a fairly short time. These 2 factors hence essentially allow for a time lag during which shortages in supply can arise.

Our proposals

184. We consider that further issues should continue to be permitted as they are an important element in ensuring a fairer market. They facilitate a seamless supply of derivative warrants and thereby prevent price divergence when an issuer sells all its existing derivative warrants. Without further issues, price anomalies may well develop.
185. To further facilitate seamless supply, effort should be made to reduce the time lag created by the current 4-day period for processing further issues to 2 days and the requirement to hold no more than 20% of an existing issue when making a further issue. The Exchange has indicated that they are receptive to the idea of reducing the current 4-day processing time and increasing the current 20% maximum. We welcome views on the feasibility and extent of any such changes.

4 : Facilitating identical issues to enhance market competition

Existing limitations on competition

186. The supply of derivative warrants is largely controlled by the issuer of them. Issuers are also typically involved in over 70% of all trades in their warrants (see paragraph 38 above). As a result, issuers set the prices for their derivative warrants.
187. Two key factors that encourage fair pricing are potential for damage to an issuer's reputation and the availability of competing products. It is important therefore to allow other issuers to be free to introduce competing derivative warrants that have identical terms.
188. Two aspects of the existing rules restrict the ability of other issuers to mirror an existing derivative warrant, ie to issue identical versions of an existing derivative warrant. First, the requirement that a derivative warrant have a minimum life of 6 months and, secondly, the requirement that the issue price of a warrant be not less than HK\$0.25.

³⁴ So, for example, if the day of listing is Day 4, the issuer cannot sell earlier than Day 2.

Minimum life requirement

189. The Exchange's May 2001 consultation paper described the purpose of the minimum life requirement as being to allow a reasonable period of time for investors to obtain a return on their investment. As the Exchange had received limited requests for shorter lives, the rule was not changed except that it was relaxed so that it did not apply in respect of further issues.
190. We consider that market competition may be increased by either eliminating the minimum life requirement or setting a shorter minimum life for the issue of an identical version of an existing derivative warrant. We note however that eliminating the minimum life requirement may raise other issues such as concerns about excessive supply of derivative warrants that are short-dated and out-of-the-money. The prices of short-term derivative warrants tend to be more volatile, and hence attract investors with a very short-term horizon. Excessive supply in this regard may encourage speculative behaviour. Moreover, short-term derivative warrants are also harder to value and hence typically attract more complaints of price manipulation by the liquidity providers.
191. These risks would be amplified if the minimum life requirement were to be eliminated rather than simply reduced. Whilst all derivative warrants have the potential to be out-of-the-money shortly before their expiry, elimination of the minimum life rule would only make this more likely.
192. However, the risk that issuers will issue short-dated out-of-the-money warrants is mitigated by the cost of issuance. These costs tend to make very short life warrants uneconomical if there is no existing demand.

Minimum issue price

193. The Listing Rules require that the issue price for a derivative warrant at the date of issue must be at least HK\$0.25. The rationale for having a minimum issue price was to ensure that there is sufficient room for any subsequent decline in the price before it reaches the minimum allowed by the Exchange's trading system of HK\$0.01.
194. A number of market complaints relate to price movement at or near the HK\$0.01 minimum. As prices cannot fall lower than HK\$0.01 a derivative warrant priced at that level may in effect be worthless. A movement in the price of the underlying may not be reflected in a movement in the price of the derivative warrant if the warrant remains at below HK\$0.01. Investors not aware of this may well believe that there has been price manipulation.
195. It is also worth noting that some retail investors are attracted to very low priced derivative warrants. This is because whilst a change to a low priced derivative warrant price may be small, percentage-wise it will be large. To explain, the Exchange's trading system requires all securities to be priced at specific levels. The lowest price possible is HK\$0.01. The next possible prices are HK\$0.011 and HK\$0.012. The percentage increases in price at these levels are 10% and 9%. The potential for significant percentage gains is thus very great.

196. Separately, if issuers are to be able to issue identical versions of existing derivative warrants, it will be necessary to lower the minimum issue price from HK\$0.25 to HK\$0.01. This is because the price of an existing issue may have fallen to below HK\$0.25 at the time that another issuer is looking to issue an identical version. If the minimum issue price is kept at HK\$0.25, this will effectively prevent the issuer from issuing an identical version because it will be unable to mimic the price.

Our proposals

197. In view of the above, we recommend that the existing minimum life and minimum price requirements be relaxed in relation to issues of identical versions of existing derivative warrants. The Exchange has indicated support for the general direction of this proposal. However, it has also expressed concerns over whether the market will turn even more speculative with too many short-dated, low-value warrants available to investors. We therefore welcome views on the extent of any such relaxations.

5 : Need to ban commission rebate and other incentive schemes

Response to questionnaires

198. As mentioned in Chapter I, for the purposes of this review, the SFC sent out a questionnaire to 19 issuers on their commission rebate and incentive schemes. All 19 issuers responded, including 2 who had not then formally commenced business as derivative warrant issuers. The responses revealed the following –
- (1) 7 respondents had an active commission rebate scheme for clients of participating brokers, including 4 of the top 5 most active issuers. Of the 7, 2 have yet to make any payments of rebates. The other 5 have varying number of participating brokers (ranging from 8 to 55) and the number of clients who benefited ranged from 14 to over 1,000.
 - (2) The other 12 issuers did not have any active commission rebate scheme, although 1 of them has a one-off programme to give away gift vouchers to clients who actively trade its derivative warrants. The highest pay out under this one-off programme is equivalent to HK\$10,000. 1 issuer said it used to have a commission rebate scheme but decided to discontinue it as it did not create sufficient economic benefit for its derivative warrant operations.
 - (3) In addition to commission rebate scheme, 1 issuer awarded holiday packages to the top 3 clients who traded the most of the issuer's derivative warrants via the participating brokers.
 - (4) Most issuers with incentive schemes advised that they approach brokers and not ultimate clients to solicit interests in participating in their schemes. The criteria used to identify participating brokers are generally similar –
 - (a) client base in warrants trading / distribution network;
 - (b) internal control; and
 - (c) reputation including previous disciplinary records.

- (5) No issuer had set any restrictions as to what constitutes a qualifying trade for commission rebate. For example, there was no requirement for the trades to be concluded with the liquidity provider. In the absence of such requirement, two persons could actively trade with each other for no other purpose than to claim the rebates. If the issuers do not impose any cap on rebate to be paid, the lack of proper restrictions open up the possibility for abuses.
- (6) Theoretically, the rebate schemes are available to all clients of the participating brokers, but issuers do not take measures to ensure that participating brokers advise their clients of the availability of rebates.
- (7) Generally, issuers advised that the rebates are only available to a selected pool of derivative warrants at any time. Their criteria for inclusion are in general stipulated as follows –
 - (a) demand and liquidity of the underlying;
 - (b) demand for warrants of specific strikes or maturities; and
 - (c) newly issued warrants.
- (8) The following derivative warrants are unlikely to be included in any rebate scheme –
 - (a) penny warrants; and
 - (b) deep in-the-money warrants and deep out-of-the money warrants.
- (9) There is a very wide range in the time issuers make a rebate scheme available – from as short as half a day to 3 months.
- (10) The level of rebate usually ranges between 0.1% and 0.25%. At least 1 issuer changes the rebate rate from time to time even for the same derivative warrants. The rebate rate may even be changed intra-day.
- (11) Some issuers cap the commission rebate payable to any one client in any month. Caps varied between HK\$2,000 and HK\$5,000. One issuer set the cap in respect of certain warrants at HK\$100,000 per month. The largest reported rebate paid by an issuer to an individual investor in one month was about HK\$2,500,000. One issuer also put a cap on the commission rebate payable to a broker at HK\$500,000 for any one month.
- (12) All the dynamic information about a rebate scheme, such as period of availability, derivative warrants included, etc is conveyed to the participating brokers by email from time to time. It is therefore not clear if information relating to the rebate scheme on the issuer's web site is up to date.
- (13) While some issuers advised that they would not allow house accounts,³⁵ others allow employees of the brokers and account executives to participate in their rebate schemes.

³⁵ A house account is a proprietary account of the broker.

Trading patterns

199. Additionally, our review of trading patterns for derivative warrants revealed that some investors conduct a large number of buy and sell transactions each day. The pattern of these trades suggests that the main motive for the trades may be to enable these investors to claim commission rebates. Such trades may confuse the market as to the level of investor interest in the derivative warrant itself.

Our proposals

200. Our main concerns over commission rebates and incentive schemes are as follows –

- (1) Unlimited or unrestricted rebate schemes have the potential to attract investors whose main objective is to generate commission rebates rather than use derivative warrants as an investment tool. This in turn can also confuse or mislead the market by giving a wrong impression of turnover.
 - (2) Some of these rebate schemes have effectively reduced the cost of trading. Cost reduction is generally regarded as beneficial to all investors. However, it has also encouraged an over exuberance in derivative warrants trading and, in turn, attracted investors who do not understand the nature of derivative warrants, how they work or their associated risks.
 - (3) Issuers can change the terms of schemes frequently to make individual warrants attractive. It is difficult for investors to know whether the change in turnover of a particular derivative warrant is the result of a change in market sentiment for that derivative warrant or the result of a change in a related rebate scheme and hence in the transaction costs associated with trading in that derivative warrant. Moreover, frequent changes to rebate schemes make it difficult for investors to ensure that they receive the rebates they are entitled to.
 - (4) We believe issuers do not have sufficient control over –
 - (a) the identity of persons receiving the rebates;
 - (b) whether the payments made are in fact passed on to investors;
 - (c) whether the rebates reflect the net commission costs borne by individual investors – our inspections of brokers identified cases where the rebate was shared between the broker and the investor; or
 - (d) whether the trades resulting in the rebates are the result of investors trading with each other in order to generate the commission rebate.
201. We propose imposing a ban on commission rebate and other incentive schemes. We welcome views on this proposal and other alternatives.

6 : Publishing new marketing guidelines

High penetration marketing strategy employed by many warrant issuers

202. Our review showed that many derivative warrant issuers employ high penetration marketing strategies to promote their derivative warrants. The more common activities include –
- (1) issuing regular market commentaries or recommendations via the mass media including newspapers and the Internet;
 - (2) inviting analysts or market commentators to give their comments on sponsored radio or television programmes; and
 - (3) advertising derivative warrants via other mass media, such as broadcasts on public transport and in other public areas.
203. As a result, the derivative warrants market has experienced tremendous growth in the past few years and derivative warrants are now considered a mainstream financial product available to the investing public in Hong Kong. This however ignores the complexity of derivative warrants, and the higher risks associated with investing in them.

Guidelines issued by the SFC

204. In December 2001, the SFC issued guidelines to derivative warrant issuers regarding marketing material for such products. These guidelines set out what information should be provided in marketing material, including material such as term sheets, newsletters, market updates and public advertisement. However, some market participants have suggested that it is not clear whether these guidelines apply only to marketing material which is in paper form or whether it extends to marketing via other media as well, such as radio, TV, the Internet, etc.
205. Separately, the SFC has also incorporated guidelines in its Code of Conduct³⁶ on potential and actual conflicts of interests relating to analysts who are licensed by or registered with us. These guidelines apply in respect of all securities listed or traded on the SEHK, including therefore derivative warrants. Licensed or registered analysts who make commentaries or recommendations on derivative warrants through the mass media must therefore comply with these guidelines. Given that in Hong Kong, many retail investors may regard commentaries or recommendations made in mass media as an important source of investment information, such guidelines are crucial.

Problems with marketing and promotional activities

206. Despite the existing guidelines, we have observed a number of increasingly prevalent marketing and promotional practices employed by derivative warrant issuers, which give us cause for concern. In particular –

³⁶ This refers to the Code of Conduct for Persons Licensed by or Registered with the Securities and Futures Commission. The guidelines are set out in paragraph 16 of this Code.

- (1) advertisements in newspapers regarding derivative warrants often only include a positive analysis;
 - (2) it is sometimes not clear whether the material in question is intended to be an advertisement or a commentary; and
 - (3) issuers selectively quote investors, noting only those who claim to have made a profit from trading the issuers' derivative warrants.
207. These practices contribute to giving investors a distorted view of derivative warrants, thus making this already complex product less likely to be properly understood.

Our proposals

208. In view of the above, we propose publishing new guidelines on marketing for derivative warrants so that there is no doubt that they cover marketing via mass media such as radio, TV, the Internet, etc. We also propose that the guidelines adopt a principle-based approach rather than a prescriptive approach, governing the whole spectrum of the marketing and promotion campaign.
209. Our preliminary view is that these revised guidelines will likely need to be incorporated in the Listing Rules, thus placing the burden of ensuring compliance on the issuers. We will also discuss this issue with the Broadcasting Authority as we acknowledge our own rules may be insufficient to catch all marketing activity.

7 : Plain language

210. We believe market participants, and issuers in particular, can play an equally important role in enhancing investors' understanding of derivative warrants by ensuring that any materials concerning their products are readily accessible and easily understood. In particular, they should as far as possible be written in clear non-technical language and, where excessively lengthy, should be accompanied by a concise summary that is equally accessible and easy to understand.

Difficulties with existing documentation

211. Listing documents for derivative warrants available on the Exchange's website consist of –
- (1) a base listing document – this sets out the terms and conditions of a variety of derivative warrants as well as details about the issuer and any guarantor of the issuer, and typically runs to over 200 pages;
 - (2) a supplemental listing document – this sets out information in relation to a particular issue (such as a summary description of the issue, its terms and conditions, details of the liquidity provider, relevant risk factors and details of any

changes in respect of information provided in the base listing document) and typically comprises about 20 pages.

212. Both documents are invariably drafted in formal legal language that is hard for retail investors to understand. In contrast, since the beginning of 2005 a number of issuers of unlisted structured notes and unlisted bonds, which are aimed at general investors, have started to use less technical language. These “plain language” documents are similar to those for derivative warrants in that there is a document setting out the terms that will apply to all issues in a particular programme and a separate document for each issue.

Standardizing terms and conditions

213. We further note that unlike structured notes many derivative warrants contain nearly identical features regardless of the issuer. Moreover, there is a general expectation in the market that all derivative warrants over the same underlying shares with the same strike price and same expiry date are in effect identical except that they have different issuers. However, without a careful study of the terms offered by the issuers, investors are not able to check that this is the case.

Our proposals

214. We believe therefore that issuers should be required to use “plain language” in their listing documents for derivative warrants.
215. We propose that a 1-2 page Summary document be prepared by issuers, containing the key features, benefits and risks of their product. This will aid investor understanding.
216. We further recommend that the industry and regulators agree on common definitions and standard terms for standard products. Issuers would then only need to disclose departures from these standard terms in their listing documents especially the supplemental listing document. The standard terms could be described in plain language and be available on the Exchange’s website. The result would be shorter more informative documents that allow investors to readily compare the terms for apparently similar derivative warrants. We anticipate that in most cases issuers will elect to adopt the standard terms. Knowing that the terms are identical allows investors to compare the performance of individual derivative warrants without having to consider the terms and conditions offered by each issuer.
217. The Exchange has indicated that it supports the idea of using plain language and standardizing terms and conditions. We would welcome views from other market participants, including investors.

CHAPTER VII – ENHANCING INVESTOR EDUCATION

218. We have received a number of complaints from investors about derivative warrants and the conduct of market participants. In the course of our review of the market we have studied these complaints to identify common features and trends. One of the more glaring findings was the fairly high level of misunderstanding and misconceptions about derivative warrants on the part of retail investors. This reinforces our view that derivative warrants are complex products, to be invested in only after careful consideration. In the following paragraphs we highlight some of the more common complaints and misconceptions. We then go on to discuss our investor education efforts and proposals, including some proposals to facilitate investors' understanding of the particular derivative warrants that they wish to or have invested in.

Common investor complaints and misconceptions

Breakdown of cases reported and reviewed

219. Between January 2002 and October 2005, the SFC considered 255 reports of alleged misconduct relating to derivative warrants – representing less than 6% of the total number of complaints that the SFC received during this period. Of these, 224 came from retail investors, 7 from warrant issuers, 6 were referred by the Exchange and 1 from another law enforcement agency. The remaining 17 reports arose out of the SFC's market surveillance work and inspection of licensed intermediaries.

220. These 255 reports contained a total of 310 allegations. The following table shows a breakdown of the nature of these allegations –

Nature of allegation	Number of reports including such allegation	Percentage of reports including such allegation
Warrant price failed to track the movements of the underlying asset	143	56.1%
Warrant price suspected to be manipulated by brokers and others	62	24.3%
Warrant price suspected to be manipulated by liquidity provider and issuers	30	11.8%
Liquidity provider failed to provide quotes or provided wide spread quotes	29	11.4%
Creation of false turnover	27	10.6%

Availability or accuracy of warrant information	10	4%
Price of the underlying asset suspected to be manipulated during the fixing period³⁷	5	2%
Miscellaneous	4	1.6%

221. After review or investigation, we found that in 218 cases, there was no basis for the SFC to take any further action. Moreover, many of the complaints contained allegations that were either not specific or constituted mere speculation. Of the remaining 37 cases, 8 resulted in our Enforcement division sending letters to the relevant issuers reminding them of their responsibilities and ensuring that the relevant internal controls were in place,³⁸ 1 resulted in a successful prosecution for short selling, 1 resulted in the suspension of a licensed representative for improper trading activities, 8 were referred to the relevant operational division within the SFC (and, in some cases, eventually the SEHK) for consideration as to what steps could be taken to improve information dissemination to investors,³⁹ and 19 remain under active review or investigation. The table below summarises this –

Outcome of assessment	Number of reports
No further action taken	218
Under active review or investigation	19
Letter issued by Enforcement division	8
Referred to operational divisions within the SFC and SEHK for policy consideration	8
Successful prosecution (for short selling)	1
Disciplinary action (suspension of a licensed representative for improper trading activities)	1

³⁷ In relation to a plain vanilla warrant on a single stock, the fixing period is the 5 trading days immediately preceding the expiry date.

³⁸ Only 2 such letters were issued as 7 of the 8 cases related to a single issuer.

³⁹ For example, we suggested that exotic warrants and plain vanilla warrants be listed separately (rather than intermingled) in newspaper tables so that investors would be more alert to whether the particular derivative warrant they had purchased or were interested in was an exotic one or not; we also suggested using different stock codes for exotic warrants, again so that investors could readily recognize which were exotic and which were plain vanilla types.

Pricing of derivative warrants

222. As noted in the table under paragraph 220 above, 56% of the cases (the overwhelming majority of which were investor complaints) concerned allegations about the failure of derivative warrant prices to rise when the underlying had moved in the appropriate direction. Very often, this would then be used to justify allegations of suspected manipulation of the derivative warrant by its issuer, liquidity provider and other brokers. However, our review of these cases revealed that, in general, there were no anomalies between the performance of the warrant in question and that of the warrants of other issuers for the same underlying asset, and that the price divergences may instead have been caused by changes in short-term demand and supply of the specific warrants.
223. Such investor complaints clearly show that many investors do not fully understand the fairly complex pricing mechanism of derivative warrants. As a result, they have misconceived expectations of how their investments should perform. One of the more common misconceptions is the expectation that the price of a derivative warrant should *always* change in proportion to any change in the price of its underlying. Such an approach is too simplistic. It ignores a number of things, including –
- (1) the impact of short-term demand and supply;
 - (2) the other factors affecting the price of a derivative warrant (as discussed in paragraphs 29 to 32 above); and
 - (3) that the price of a derivative warrant may not return to the level it was at previously (ie when the underlying was previously at the same price), due to time decay or change in other factors affecting the warrant price.

Lack of understanding about implied volatility

224. The complaints from retail investors also suggest that many find the concept of implied volatility, and hence its impact on the price of derivative warrants, difficult and therefore do not refer to it when investing in derivative warrants. For example, many investors fail to consider the implied volatility of comparable derivative warrants (such as derivative warrants over the same underlying but issued by different issuers) before choosing which to invest in.
225. As explained earlier, an understanding of implied volatility is critical when investing in derivative warrants (see paragraph 35 above). By contrasting the implied volatility of comparable derivative warrants, investors can assess which is more expensive. Moreover, implied volatility is not a constant, and changes in implied volatility can at times overshadow changes in other factors such as changes in the price of the underlying. So, for example, even though the price of the underlying may have moved in a direction which suggests a rise in the price of the derivative warrant, it may be that the implied volatility has simultaneously fallen, and fallen so significantly that it has cancelled out any expected rise in the price of the derivative warrant that would otherwise have resulted from the change in the price of the underlying.

The use of gearing ratio

226. The investor complaints suggest that some investors rely solely on the gearing ratio⁴⁰ to predict movements in the price of derivative warrants. As should be clear by now, such an approach is likely to result in miscalculation of returns as it ignores the various other factors that can affect price. It also ignores the fact that the gearing ratio itself is not constant.

How exotic derivative warrants work

227. As mentioned in Chapter II, derivative warrants may be of the plain vanilla type or more exotic and complex. Exotic derivative warrants add further complexity to the already complex pricing mechanism. The investor complaints suggest serious misunderstandings about payouts under exotic derivative warrants.
228. In 35 cases where investors complained about the warrant price not moving in tandem with the price of the underlying, we found that the derivative warrants were in fact exotic warrants, namely “average return warrants” or “locked-in return warrants”. Such warrants have multiple fixing dates and the return on expiry (which is also the last fixing date) is calculated with reference to its performance as at the various fixing dates. It follows therefore that as such derivative warrants approach expiry, their price will be affected more by their performance on earlier fixing dates than by subsequent changes in the price of the underlying. So, for example, if an average return warrant with 4 fixing dates was out-of-the-money on the first 3 fixing dates, then it will be quite insensitive to the performance of the underlying asset after the third fixing date as it has already lost most of its value. The fact that many investors nevertheless expect the price of such derivative warrants to move in tandem with the price of the underlying indicates that they have failed to appreciate the impact of multiple fixing dates on price.

Low-priced derivative warrants

229. Our review of some of the investor complaints also revealed a tendency for some investors to buy low-priced derivative warrants (ie those trading at under HK\$0.05 or even as low as HK\$0.01) in the hope that they can make large returns (in percentage terms) even if there is an increase of only a few cents in the price of the derivative warrants. Again, this can demonstrate a lack of understanding of how the price of derivative warrants may be affected. As mentioned, there are many factors affecting the price of derivative warrants and relying solely on one or some is misleading. Secondly, in the case of low-priced derivative warrants, these typically tend to be short-dated (ie close to expiry) and already out-of-the-money. The likelihood of them expiring worthless is high. The time decay in these warrants is likely to be so large that it offsets any gain from movement in the price of the underlying. In addition, liquidity providers will usually quote wide spreads for such warrants (which means the prices quoted are unlikely to meet investors’ expectations) and may not quote at all if the fair value of the derivative warrant is below HK\$0.01.

⁴⁰ The gearing ratio, or effective gearing, refers to the expected rate of change in the fair value of a derivative warrant when there is a 1% change in the price of the underlying asset.

Information availability and accuracy

230. The number of investor complaints about information on derivative warrants being inaccurate or unavailable is relatively low. However we found that often complainants had not checked the relevant information on either the issuers' or the Exchange's websites or had misinterpreted information that had been provided.

Role of liquidity providers

231. We are concerned that many investors did not have a good understanding of the role of liquidity providers. Some investors complained about liquidity providers not providing quotes while some complained that the quotes provided did not meet their expectations and hence they could not trade their derivative warrants. The complaints indicate a misunderstanding of the obligations undertaken by a liquidity provider under the listing document, particularly the fact that liquidity providers are not required to provide quotes on a continuous basis and that most opt to simply respond to requests for quotes (as they are entitled to do). In some circumstances, the liquidity provider is not obliged to provide quotes at all. For example when the derivative warrant's fair value falls to below HK\$0.01. Again, it appears that many investors are unaware of such exceptions.

Investor education efforts

Need to continue investor education

232. Since the re-opening of the derivative warrants market in January 2002, the SFC has carried out a variety of education programmes to highlight the complexities and risks associated with investing in derivative warrants. More recently, we have also stepped up efforts to address some of the more commonly misunderstood aspects of these products.
233. In order to attract a wider audience group, our efforts in this regard have been conducted via a range of media including TV, radio, newspaper, our Dr Wise column,⁴¹ press releases, electronic newsletters, enquiry services and other outreach activities. We have also published, and continue to expand, educational information on derivative warrants via our investor education portal, the Electronic Investor Resources Centre (abbreviated as eIRC) located at www.eirc.hk. Our educational material ranges from explanation of more basic matters (such as jargons, pricing mechanism, liquidity providers' role, etc) to the more unique features of different kinds of exotic warrants.

Investor education efforts since 2002

234. The mass media is an effective means to get our educational message out to all walks of life. Since 2002, we have published 47 articles relating to derivative warrants in eight widely circulated newspapers and magazines. We have also produced a TV programme on exotic derivative warrants for broadcasting on a popular TV channel during prime time. The programme was subsequently replicated on VCDs for free distribution. Investors can now watch it on the eIRC at any time. In addition, we have rolled out two

⁴¹ Dr Wise is a fictitious character who talks about investing and matters relating to the markets.

radio programmes and SFC representatives have also participated in a number of radio interviews concerning derivative warrants. We have also given 25 talks to investors explaining to them the unique features and risks of derivative warrants. These outreach activities attracted around 6,000 participants. Separately, through our preventative education efforts for secondary schools, we have talked to 450 teachers on the concept of derivative warrants and provided numerous reference materials on the eIRC for teachers to use for discussion in class.

235. Our more recent efforts include the following –

- (1) in November 2005, we updated our existing material and introduced more numeric examples to facilitate understanding, and mouse-over text boxes to explain jargons in plain language;
- (2) in October 2005, we introduced a new interactive game on the eIRC to make it easier for investors to understand the basics of trading in derivative warrants and other analytical information on such products;
- (3) we participated in the Financial World Expo in October 2005 where we explained to over 21,000 visitors the common fallacy that “warrant is a geared substitute of its underlying stock”;
- (4) we discussed different aspects of derivative warrants in 6 issues of the SFC’s corporate newsletter, and in 6 issues of the monthly eIRC e-newsletter, we explained the issues which investors should note when choosing warrants;
- (5) between July and October 2005, SFC staff manning the Investor Hotline responded to a total of 128 investor enquiries concerning derivative warrants;
- (6) in July 2004 and September 2005, we published two articles in our Dr Wise column entitled “Derivative Warrants Are Not For Everyone” and “Warrants: If In Doubt, Stay Out” – the first of these highlighted some of the common pitfalls of picking derivative warrants while the latter clarified some common investor misconceptions;
- (7) also in September 2005, we reminded investors in a press release that they must understand the nature of derivative warrants and the risks involved, highlighting the importance of comparing implied volatility when choosing derivative warrants, and understanding the price-determining factors, as well as the risks of short-dated and deeply-out-of-the-money warrants;
- (8) in June 2003, in light of the proliferation of exotic derivative warrants and increased number of complaints relating to them, we issued a high-profile press release advising investors to read the listing documents of these warrants and understand their unique terms and conditions before investing in them.

236. It is important to assess whether our investor education efforts are bearing fruit. To that end, we have, in October and November 2005, engaged an independent organisation to interview 1,500 investors by phone to gauge their understanding of the pricing

relationship between derivative warrants and their underlying. The findings will be useful in assessing whether and how our future investor education efforts should proceed.

Our proposals

237. Educating investors on derivative warrants will continue to be among the SFC's top priorities. We will carry on our focused campaign on risk education and clarifying misconceptions about derivative warrants in different areas, such as their pricing mechanism, the importance of comparing implied volatility, payout calculations of exotic warrants, and the high risk of speculating in short-dated and deeply out-of-the-money derivative warrants. Our investor education plans for the future include the following –

- (1) In view of the numerous promotions and recommendations on derivative warrants offered by issuers and market commentators, we will continue to remind investors that they should exercise caution when considering such promotions or recommendations; be aware of any assumptions made by the promoter or person making the recommendations; assess whether any such recommendations are independent; and, most importantly, not rely solely on such promotions and recommendations when making their investment decisions.
- (2) We will also be launching a new Announcement in the Public Interest (API) campaign comprising TV and radio APIs supported by advertorials in popular newspapers, to alert investors that derivative warrants are complicated products and that it is essential to understand their terms before investing in them.
- (3) The SFC has just launched an open Investor Story Competition. Participants are asked to come forward and recount true stories of their experiences in investing in derivative warrants, together with a review of how effective investor education has helped them or how a bad investment experience could have been avoided with better help or information.
- (4) In addition to existing text material and interactive games on the eIRC, we will be including short flash videos explaining the pricing mechanism of derivative warrants, factors to consider when investing in them, the role of liquidity providers and exotic derivative warrants.
- (5) Intermediaries are in an ideal position to enhance their clients' understanding of the risks associated with trading in derivative warrants as such products must be bought and sold through them. We will therefore encourage them to do so, and for this purpose, to use or refer to the SFC's educational materials.
- (6) We shall also explain in plain language the impact of any rule changes in the derivative warrants market so that retail investors are better able to understand the working of the market and the steps they need to take to protect their own interests.

Information dissemination

238. Apart from stepping up our own investor education efforts, we believe there is a need to draw retail investors' attention to the more technical information about derivative warrants by simplifying it where possible, and presenting it to them in a format that is readily accessible and easy to understand. This would enhance their awareness of the features and complexities of the particular derivative warrants they have or intend to invest in. It will also facilitate their understanding of the products and help correct misunderstandings and misconceptions.

Major sources of information

239. Apart from newspapers and magazines, the three major sources of information on derivative warrants are the derivative warrant issuers' websites, information provided by information vendors and the Exchange's website.

Information available on issuers' websites and from information vendors

240. Among the existing derivative warrant issuers, over half have set up dedicated websites for promoting their derivative warrants. Most of these websites are bi-lingual and very often the Chinese websites are more informative than the English. In general, websites maintained by the major derivative warrant issuers include the following information and features –

- (1) Information on derivative warrants – This includes recommendations, daily commentaries, research reports and detailed information on individual derivative warrants (such as product terms, price and risk parameters, listing documents, commission rebate programs, etc).
 - (2) Analytical tools – Most websites provide a search function for investors to generate a list of derivative warrants based on the criteria that they specify (including sometimes derivative warrants issued by other issuers) and a comparison function which allows investors to compare two or more derivative warrants that they select. Additional features include on-line calculators for investors to compute the price and risk parameters of derivative warrants and technical analysis on the price charts of underlying stocks and indices of derivative warrants.
 - (3) Trading Information – Like the Exchange's website, trading information provided on issuers' websites is on a delayed basis.
 - (4) Investor Education – Some issuers provided on-line tutorials on their websites and others allow investors to download educational materials from their websites (such as booklets explaining the basics of derivative warrants, glossary etc).
241. Secondly, real time trading information of derivative warrants is available to subscribers through information vendors who provide such services. Some information vendors also provide the term sheet for each derivative warrant and calculate the latest value of the key

risk and price parameters including the implied volatility, delta, gamma, premium and gearing, etc. A number of information vendors also provide the implied volatility of derivative warrants on a real time basis. Apart from the risk and price parameters, some information vendors also provide information of the re-issuance history and outstanding amount of derivative warrants in the market.

HKEx's Website

242. There is also much information available on HKEx's website, and most of this is published in both English and Chinese. The information available includes the following –

- (1) Information on derivative warrants – This includes the terms of each derivative warrant, all the listing documents, announcements and other reports filed by issuers with the SEHK, daily trading summary of each issuer, information on liquidity providers and a daily report (in English only) on exotic warrants. The listing rules governing the listing and trading of derivative warrants are also posted on the website.
- (2) Trading information – Delayed trading information (60 minutes delay) of derivative warrants is available on the website.
- (3) Investor education – This includes a bi-lingual “Warrant” leaflet, education articles and presentation materials of investment seminars organised by the Exchange.

243. However, although most of the information relevant to the derivative warrants market is available on the Exchange's website, it is not necessarily easy to navigate through and download. We understand that the Exchange is proposing to enhance its website including by –

- (1) improving the disclosure and dissemination of technical information about derivative warrants and information on re-issuance and other basic terms of each derivative warrant, and the Exchange will discuss this option further with issuers;
- (2) requiring issuers to submit their Daily Trading Summary for posting on the Exchange's website in Excel-like format instead of text format for ease of analysis – this report includes in particular the amount of a derivative warrant issue outstanding and information on the issuer's trading in the derivative warrant;
- (3) enhancing the user interface of the website to facilitate easy navigation, comparison of derivative warrants over the same underlying assets, and searching of related information;
- (4) allowing users to download historical data on derivative warrants;
- (5) providing all information in both English and Chinese where practicable;

- (6) adding links to other websites that provide investor education information (such as the SFC's Electronic Investor Resources Centre at www.eirc.hk);
- (7) compiling and making available on the Exchange's website a contact list of information vendors who provide real-time technical data such as real-time implied volatility to their subscribers.

Our proposals

- 244. We welcome the Exchange's initiatives in this regard and will continue to work with them to see how dissemination of information may be further improved.

Plain language

- 245. Our proposal to introduce plain language requirements (as discussed in paragraphs 210 to 217 above) will also contribute to improving investors' understanding of investing in derivative warrants and the associated risks.

CHAPTER VIII – CONCLUSION AND WAY FORWARD

Concluding thoughts

246. In devising the proposals discussed in this paper, our emphasis has been on achieving the right balance between securing an appropriate degree of protection for members of the investing public and not over-regulating the market so as to stifle continuous innovation and development. We also believe our proposals will make it easier for both the regulator and market participants to identify improper practices and behaviour and respond accordingly.
247. It must be recognized however that, ultimately, no number of investor education initiatives or proposals will be enough and that what is key is that investors and their advisers exercise due caution before investing their or their clients' money into derivative warrants. The nature of the product necessitates prudence. At the same time issuers must recognize that they too have a role to play by providing fair and good quality services to the market.

Way forward

248. We welcome views to any of our proposals, and any other matter discussed in this report. We ask for views on these proposals to be submitted to us by the end of January 2006. Our next step will be to discuss comments received with the Exchange and, where appropriate, either develop and consult on specific proposals for amendment of the SFC's Codes and Guidelines or invite the Exchange to develop specific proposals for Listing Rule changes which the Exchange will then put out for public consultation. This may be done in stages as there are some issues which may be less controversial or easier to implement than others. Any views and comments received in the meantime will be taken into account when devising these concrete proposals.
249. Any person wishing to submit comments on behalf of any organization should provide details of the organization whose views they represent.
250. Please note that the names of the commentators and the contents of their submissions may be published on the SFC's website and in other documents to be published by the SFC. In this connection, please read the Personal Information Collection Statement attached to this report.
251. You may not wish your name to be published by the SFC. If this is the case, please state that you wish your name to be withheld from publication when you make your submission.

252. Written comments may be sent –

by mail to: The Commission Secretariat
 Securities and Futures Commission
 8/F Chater House
 8 Connaught Road Central
 Hong Kong

by fax to: (852) 2523 4825

by on-line
submission: <http://www.sfc.hk>
 (Please go to “Speeches, Publications & Consultations”
 on the website <http://www.sfc.hk> and then enter the
 section headed “Surveys and Reports” under
 “Publications”.)

by e-mail to: DW@sfc.hk

GLOSSARY

<i>2002 reform</i>	The large-scale revamp of the regulatory framework for derivative warrants (in two stages) in 2001 and 2002 following thorough market consultation. The reform is described in greater detail in paragraphs 53 to 56 above.
<i>ask order</i>	This refers to an order to sell. A person's ask order describes how much of a particular product he is prepared to sell and at what price.
<i>ask price</i>	This refers to the selling price. A person's ask price is the price at which he is prepared to sell a specified quantity of a specified product.
<i>at-the-money</i>	A derivative warrant is "at-the-money" when the price of the underlying asset is the same as the exercise price.
<i>bid order</i>	This refers to an order to buy. A person's buy order describes how much of a particular product he is prepared to buy and at what price.
<i>bid price</i>	This refers to the buying price. A person's bid price is the price at which he is prepared to buy a specified quantity of a specified product.
<i>correlation coefficient</i>	A measure (ranging from -1 to +1) of the degree of association between two variables. A positive correlation coefficient implies that the variables are positively related; a negative correlation coefficient implies that the variables are negatively related; a correlation coefficient of 0 implies that the variables are not related. The higher the absolute value of the correlation coefficient, the closer relationship between the two variables.
<i>derivative warrants</i>	Warrants are instruments which give investors the right, but not the obligation, to buy or sell an underlying asset at a pre-set price on or before a specified date.
<i>derivative warrant series</i>	This refers to a particular derivative warrant issued by an issuer and includes any further issues of identical derivative warrants by the same issuer.
<i>equity-linked instrument</i>	An instrument that combines the characteristics of a money market instrument (eg a bond or note or deposit) with a return component based on the performance of a single stock, a basket of stocks or a stock index.
<i>Exchange</i>	This refers to Hong Kong Exchanges and Clearing Limited and the Stock Exchange of Hong Kong Ltd.

<i>Exchange Participant</i>	A person who, in accordance with the Rules of the Exchange, can trade on or through the Exchange.
<i>exercise price</i>	In the context of derivative warrants, this refers to the price at which the holder can exercise the right to buy or sell (as the case may be) conferred by the derivative warrant, ie the price at which he may buy or sell the underlying.
<i>further issue</i>	If the initial issue of a derivative warrant series (including any derivative warrants retained at the time of launch) does not suffice to meet demand, issuers may launch identical derivative warrants. The issue of such identical derivative warrants after an initial issue is referred to as a further issue. There may be more than one further issue.
<i>grey market activities</i>	This term is commonly used to describe unofficial trading prior to listing. In the context of derivative warrants, it describes the trading of derivative warrants before they are listed or issued.
<i>HKFE</i>	The futures market operated by the Hong Kong Futures Exchange Ltd.
<i>HKMA</i>	The Hong Kong Monetary Authority.
<i>HSCEI</i>	The Hang Seng China Enterprises Index (also known as H-share index).
<i>HSI</i>	The Hang Seng Index.
<i>in-the-money</i>	A derivative warrant is “in-the-money” if its intrinsic value is positive, ie in the case of a Call warrant, the price of the underlying asset is greater than the exercise price and, in the case of a Put warrant, the price of the underlying asset is less than the exercise price.
<i>intrinsic value</i>	The intrinsic value of a derivative warrant reflects the potential profit on exercising the derivative warrant, ie in the case of a Call warrant, this means the profit (if any) calculated as $P - E$ where P = the price of the underlying asset and E = the exercise price, and in the case of a Put warrant, this means the profit (if any) calculated by $E - P$ where, again P = the price of the underlying asset and E = the exercise price.
<i>liquidity providers</i>	Liquidity providers are Exchange Participants who are appointed by issuers to provide firm bid/ask quotations for derivative warrants.
<i>Listing Rules</i>	The Rules for the Listing of Securities on the Stock Exchange of Hong Kong Limited.

<i>market capitalization</i>	This is the value calculated by multiplying the number of units of derivative warrants issued by the issue price or market price (as the case may be). The market capitalization of a particular issue (also known as market value) would thus be the number of units of derivative warrants in that issue multiplied by the market price. In the case of a stock, this value is calculated by multiplying the number of outstanding shares issued by the company by its current share price.
<i>out-of-the-money</i>	A derivative warrant is “out-of-the-money” if it has no intrinsic value, ie in the case of a Call warrant, the price of the underlying asset is less than the exercise price and, in the case of a Put warrant, the price of the underlying asset is greater than the exercise price.
<i>physical delivery</i>	This refers to the settlement method of a warrant upon its expiry. A warrant is settled by delivery of its underlying asset against cash.
<i>SEHK</i>	The stock market operated by the Stock Exchange of Hong Kong Ltd.
<i>SFC</i>	The Securities and Futures Commission.
<i>structured product</i>	Defined in the Listing Rule. A structured product provides the holder of that product with an economic, legal or other interest in another asset (i.e. underlying asset) and hence derive its value by reference to the price or value of the underlying asset.
<i>time value</i>	The time value of a derivative warrant reflects the probability of the price of the underlying asset moving favourably during the life of the derivative warrant, ie rising in the case of a Call warrant, and falling in the case of a Put warrant.
<i>turnover ratio</i>	Turnover ratio, in the context of derivative warrants, refers to the daily turnover of derivative warrants represented as a percentage of their aggregate market value. The market value of a derivative warrant is the value calculated by multiplying the number of outstanding units of that warrant (ie the number of warrants issued and held by investors) with its price. The aggregate market value of the derivative warrants market is the sum of the market value of all derivative warrants.
<i>volatility</i>	Volatility measures the amount of variability in the returns of a particular asset. In statistical terms, it is the standard deviation of the returns of an asset over a defined period of time. In this paper, the term “implied volatility” refers to the volatility of the price of the underlying asset as deduced or implied from the price of the derivative warrant and other known facts and assumptions.

PERSONAL INFORMATION COLLECTION STATEMENT

1. This Personal Information Collection Statement (“PICS”) is made in accordance with the guidelines issued by the Privacy Commissioner for Personal Data. The PICS sets out the purposes for which your Personal Data⁴² will be used following collection, what you are agreeing to with respect to the SFC use of your Personal Data and your rights under the Personal Data (Privacy) Ordinance (Cap. 486) (“PDPO”).

Purpose of Collection

2. The Personal Data provided in your submission to the SFC in response to this Report may be used by the SFC for one or more of the following purposes:
 - (1) to administer the relevant provisions⁴³ of the Ordinances, rules, regulations, codes and guidelines made or promulgated pursuant to the powers vested in the SFC;
 - (2) for the purpose of performing the SFC’s statutory functions under the relevant provisions of the Ordinances;
 - (3) for research and statistical purposes;
 - (4) other purposes permitted by law.

Transfer of Personal Data

3. Personal Data may be disclosed by the SFC to the members of the public in Hong Kong and elsewhere, as part of the public consultation on this Report. The names of persons who submit comments together with the whole or part of their submission may be disclosed to members of the public. This will be done by publishing this information on the SFC website and in documents to be published by the SFC throughout and at the conclusion of the consultation period.

Access to Data

4. You have the right to request access to and correction of your Personal Data in accordance with the provisions of the PDPO. Your right of access includes the right to obtain a copy of your Personal Data provided in your submission on this Report. The SFC has the right to charge a reasonable fee for processing any data access request.

Retention

⁴² Personal Data means personal data as defined in the Personal Data (Privacy) Ordinance, Cap 486 (“PDPO”).

⁴³ Defined in Schedule 1 to the Securities and Futures Ordinance (Cap. 571) (“SFO”) to mean provisions of the SFO and subsidiary legislation made under it; and provisions of Parts II and XII of the Companies Ordinance (Cap. 32) insofar as those Parts relate, directly or indirectly, to the performance of functions relating to prospectuses; the purchase by a corporation of its own shares or a corporation giving financial assistance for the acquisition of its own shares, etc.

5. Personal Data provided to the SFC in response to this Report will be retained for such period as may be necessary for the proper performance of the SFC's functions.

Enquiries

6. Any enquiries regarding the Personal Data provided in your submission on this Report, or requests for access to Personal Data or correction of Personal Data, should be addressed in writing to:

The Data Privacy Officer
The Securities and Futures Commission
8/F Chater House
8 Connaught Road Central
Hong Kong

A copy of the Privacy Policy Statement adopted by the SFC is available upon request.