Knowledge

in a nutshell

Turning ideas into investments.
Seven lessons on leveraged products.

UBS

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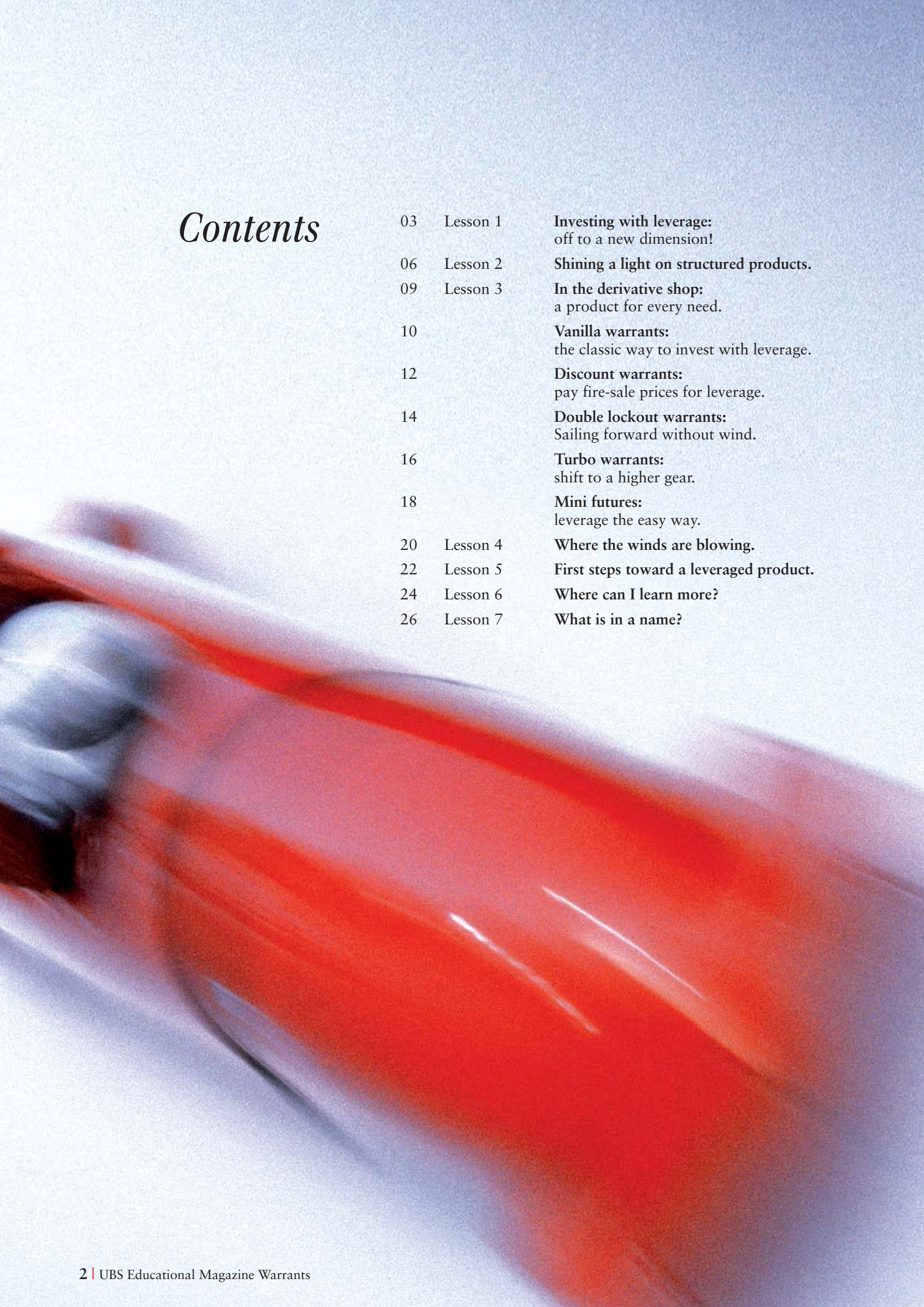


LESSON 1

Investing with leverage: *off to a new dimension!*

Up, down or sideways: any price movement can generate a profit with leveraged products – if you know the ground rules.

Let's be honest: most investors feel comfortable with stocks, bonds and mutual funds, but steer clear of leveraged products. However, leveraged products can be attractive, especially where conventional investments offer few options.

Equities, for example, can generate attractive returns over the long term. But their prices do not always go up and stay up, as the 2008 financial crisis recently showed. With leveraged products, investors can profit from any expected market scenario – including falling prices. They do not need to wait for the next bull market. Instead, they can devise a flexible investment strategy around leveraged products.

Small stakes, big impact

In physics, ***leverage*** describes the ability to easily lift heavy loads with a lever. The ancient Greeks utilized leverage to build their temples. Even modern-day cyclists make use of it: every turn of their pedals propels a relatively large mass using very little energy.

Leverage has a similar effect in finance. With relatively little capital, you can achieve large price jumps – both positive and negative. Leveraged products are always based on another asset – the underlying. It might be an equity, precious metal, interest rate or currency pair. In other words, the leveraged product's value depends on movements in the price of the underlying asset. You obtain exposure to the underlying at only a fraction of its cost, however.

If an underlying's price fluctuates by, say, 10 percent, the leveraged product's value can easily rise or fall by several times that amount. Leverage causes the instrument to respond disproportionately to fluctuations in the underlying asset's price – both up and down. That also means a formerly profitable investment can quickly shift against you. Only investors who understand this mechanism and can bear the risks should try their hand at leveraged products.

Attractive options

Leveraged products come in various shapes and sizes. Many – but not all – are still built around ***options***. This term comes from the Latin word "optio", which means "free will" or "free choice". Options give buyers a right and thus a choice.

An option buyer acquires the right, but not the obligation, to buy or sell a certain underlying asset at a predefined ***strike*** price on a particular date in the future. They can let their buying or selling right expire unused if the underlying asset does not perform as expected during the option's life.

The choice is entirely up to the option buyer. By contrast, the seller – generally a bank – is obligated to deliver or accept the underlying asset at the agreed price if the buyer exercises the option.

There are two standard types of options: ***calls*** and ***puts***. A call gives you the right to buy an underlying asset in the future; a put gives you the right to sell it. A price has to be paid for either right.

Securitized options are called ***warrants***. In reality, very few options are acquired for the purpose of buying or selling an underlying asset. Many investors either sell their warrants prior to expiration or settle in cash instead of in underlying assets at maturity. By selling warrants prior to expiration, investors can either lock in profits or cut losses.

Varied strategies

Leveraged products are a very diverse group. They provide indirect exposure to many different asset classes such as equities, currencies, interest rates or precious metals. At the same time, they let investors pursue promising strategies in any market scenario. An investor who recognizes a market trend can make an appropriate play with leveraged products and earn above-average returns if the scenario actually occurs – or rack up above-average losses if the market moves against him/her. Leveraged products can also hedge the downside risk of other investments. Lesson 3 describes how various leveraged products work.

On the money

At-the-money

Calls and puts are at-the-money if the underlying asset's price is equal to the strike price. The option's intrinsic value is zero. The option can still have a value on an exchange, though: the time value. It reflects the likelihood that the option will move in the money again.

See Lesson 4 for details.

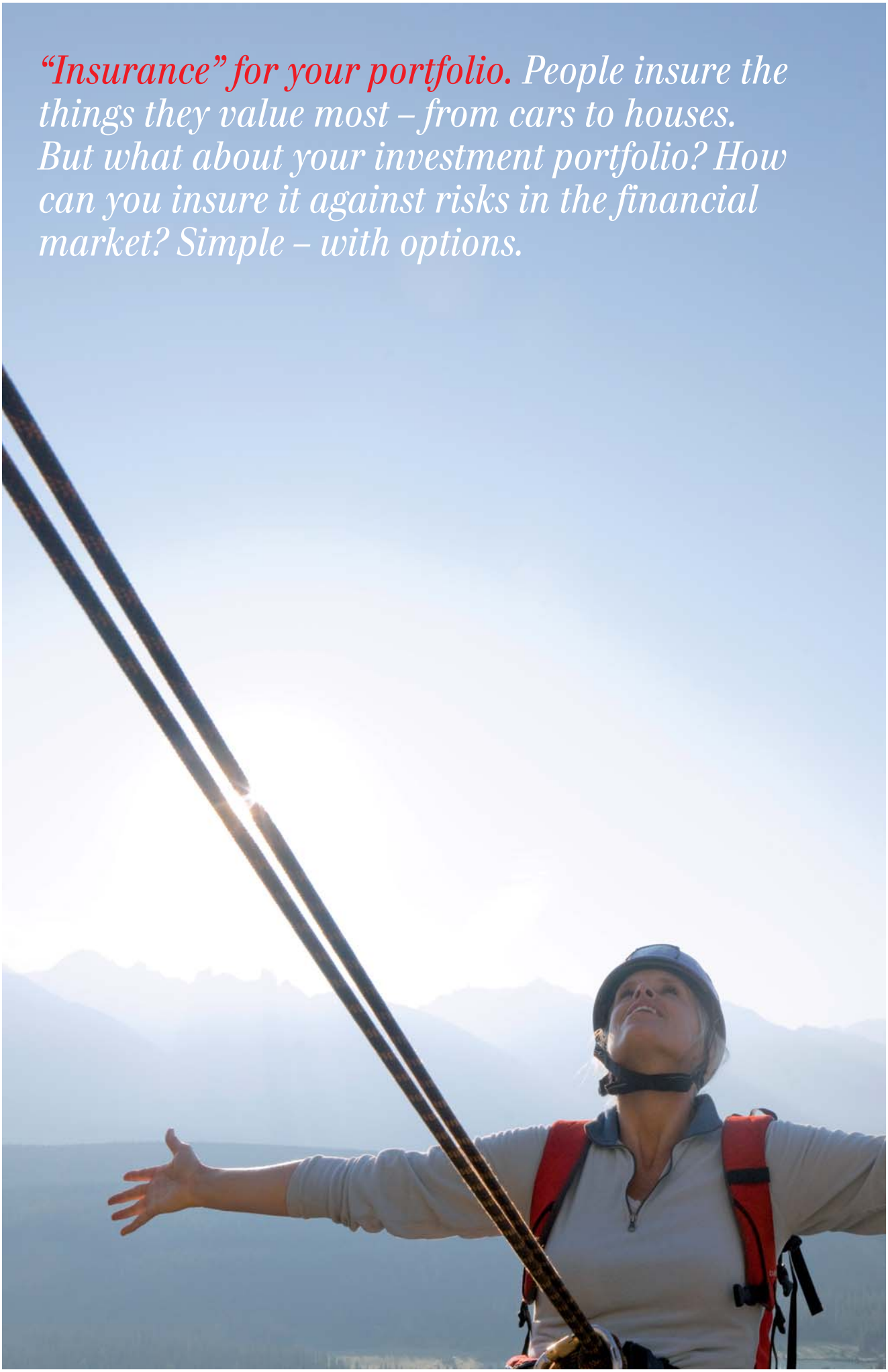
In-the-money

A call is in-the-money if the underlying asset's price is higher than the strike price. A put is in-the-money if the underlying asset's price is lower than the strike price. In-the-money options have an intrinsic value.

Out-of-the-money

A call is out-of-the-money if the underlying asset is trading below the strike price. A put is out-of-the-money if the underlying asset's price is higher than the strike price. Over time, the option may start moving in the investor's favor again.

"Insurance" for your portfolio. People insure the things they value most – from cars to houses. But what about your investment portfolio? How can you insure it against risks in the financial market? Simple – with options.



LESSON 2

Shining a light on structured products.

The history of leveraged products is steeped in misunderstandings. Marc Honegger clears up several of them.

Marc Honegger,
Head Structured Solutions Origination

Leveraged products have a reputation as instruments for "gamblers" – is that true?
No. First, you should understand how they work. As an investor, I can choose to invest directly in equities, gold or currencies or indirectly in a warrant on these underlying assets. Let's say I have 10,000 Swiss francs. Instead of investing this entire amount in a stock, I can spend part of it on a warrant on the stock. The warrant lets me participate through leverage in the stock's positive performance – like buying the stock outright, but with less capital. If the stock performs poorly, I lose all of my initial investment in the warrant. In other words, I profit if prices rise, but – thanks to my option right – only stand to lose my option price if prices fall. As a warrant buyer, I am no more a "gambler" than someone who invests directly in the underlying asset.

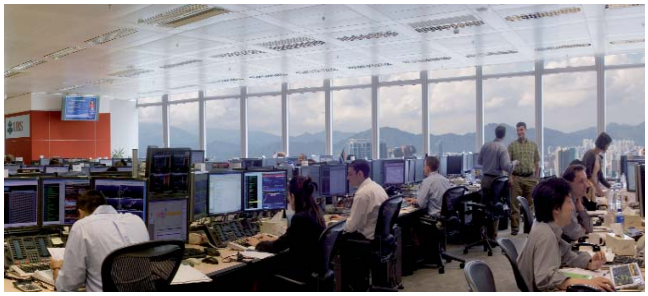
How could private investors use warrants for hedging?
Many investors have a clear view about a company's future development, but underestimate how much the overall market will influence the stock price. Let's take an investor who is convinced that one particular well-financed company has excellent prospects. They buy stock in it. The problem is this: the company could suffer if the stock markets take a dive. After all, every stock harbors not only non-systematic risks – i.e. risks specific to the security – but also systematic, or market, risks. This systematic risk can be hedged with warrants. For example, you can buy a put on a market index like the SMI.

Banks quote the buying and selling prices for leveraged products. Doesn't that encourage them to just line their own pockets?
No. That would not make any sense in today's warrants market. It is highly competitive and transparent. "And the entry barriers are low". Large providers cannot afford to skew the *bid/ask spreads* in their favor. It's like the car market. If a dealer asks too much for a used car, he

Sydney

UBS trading floors

Stamford



Hong Kong

Tokyo

Opfikon

will have to wait a long time for a buyer. Today, you can compare prices online with a few clicks. If two banks offer warrants on an underlying with the same terms and the same strike price, the prices can be compared directly on the internet.

How important is the bid/ask spread for private investors?

If they plan to sell the warrant before it expires, it is very important. If I am buying a warrant with the intention of selling it later for a higher price, I need a narrow bid/ask spread. A wide spread will cut into my profits. That is why we try to keep the bid/ask spread low for our products. The tightest possible spread is one cent.

Will banks who write warrants also bet against the client's interests?

No. With a leveraged product, clients are buying the right to demand delivery of the underlying asset. To ensure we can meet this obligation, we take the same position as the client. Here is a simple example: a client buys in-the-money call options on a stock for 20 Swiss cent each. We hedge our position by buying the stock for 10 Swiss francs. That way, we can deliver the stock if the client demands it at expiration. If the client decides to sell the call prior to expiration because the stock has gone up, we will finance the profit on the call with the higher valuation of our equity position. If the stock price falls, the client's call and our stock will lose value. Our equity position, however, ties up more money than the client pays in the option price. The client's maximum possible loss is the option price of 20 centimes, while we can lose the stock price of 10 francs. The bank assumes this risk in exchange for a premium, which is included in the option price. That said, UBS is a large multinational bank and so may conceivably hold positions that are opposed to a particular investor's view of the market.

What should investors look for in a warrant provider?
The issuer should have a good credit rating – every warrant poses issuer risk. Equally important are the issuer's product range and services after the sale. We deliberately maintain a very broad product range. Investors can always find what they are looking for with us. We also keep trading liquid and fair at all times. Our clients should view us as a partner because we meet their expectations. Only satisfied clients will continue to do business with us.

Other banks want satisfied clients, too.
I hope so. Competition is what motivates everyone to improve constantly. Very little of the differentiation between established providers comes from pricing or product ranges. Our traders want to serve client needs as completely as possible. We address and take every client inquiry and complaint very seriously. If you write to us, you will generally get an answer in very little time. And we traders write the responses, not an anonymous call center. For us, a transaction does not end with the sale of a leveraged product. We continue to advise and assist investors long afterwards.

Where can investors educate themselves about warrants?
Our products are listed on our Keyinvest website. Investors can also subscribe to our warrants newsletter. This is an unusual publication in that the articles are written by us, the traders. We present our market assessments, discuss ideas and vividly and succinctly explain how to profit from a particular trend. These are, however, traders' observations, not investment recommendations.

Number one with an owl

The setting: Hong Kong
Men, women, young, old – over 3500 retail investors surge into the auditorium. They all want to attend a seminar on warrants. The sponsor is UBS, No. 1 in Hong Kong, the world's largest warrants market. As the largest issuer, UBS has listed around 3,000 of these vehicles on the exchange.

A different culture
Many European investors still feel a chill when they hear the word "warrants". In Hong Kong, anyone with a few Hong Kong dollars to spare will snap up warrants. In fact, it is considered good form to play the stock market. Warrants and Callable Bull/Bear Contracts (CBBCs) account for much of the trading volume on the Hong Kong Stock Exchange.

Crowd-pullers
Johnny Yu, head of UBS's warrant trading operations in Asia, has a daily radio show and attracts bigger crowds than some pop stars. A cardboard owl accompanies him everywhere. This symbol of wisdom, speed and reliability is UBS's warrants mascot in Hong Kong. Here, the distinctive owl is as much a part of the bank as the logo with the three keys.

Curious? Visit UBS's website in Hong Kong and make the owl's acquaintance: *warrants.ubs.com*

LESSON 3

In the derivative shop: *a product for every need.*

Few asset classes are as varied as leveraged products. They can be outfitted with extra functions depending on the investor's needs.

You can let your imagination run wild with leveraged products. Virtually any asset listed on an exchange can form the core of a promising strategy. But you have to know what you want. What asset are you eying: an exchange rate, a precious metal, an equity? Or are you drawn to interest rates and indexes? What time horizon are you considering? And what extras should be built in?

Investors are in good hands with UBS. It is like being at an open-air market: there is something for everyone here.

Leverage. Every leveraged product is designed for above-average upside – but also poses a corresponding risk.

Liquidity. Investors depend on fair, transparent pricing. That enables leveraged products to be easily bought and sold after issue. In Switzerland, most leveraged products are traded on the Scoach derivatives exchange.

Issuer risk. Any uncollateralized product issued by a bank poses issuer risk. If issuers fail to meet their obligations, investors will come up empty-handed. That makes issuer quality a crucial question.

The leveraged product line at a glance

Vanilla call and put warrants	*Call and put discount warrants*	*Double lockout warrants*	*Call and put turbo warrants*	*Long and short mini futures*
Without special functions		With special functions		
Specific expiration date				No expiration date
Price behavior depends on several influencing factors			Price behavior depends mainly on the underlying asset	

Vanilla warrants

The classic way to invest with leverage.

Vanilla warrants are no-frills options. They are ideal for investors who want to bet on a rising or falling market or hedge other positions.

Sooner or later, many experienced investors want to emulate the pros by wagering on rising or falling markets and seizing the opportunity to earn above-average returns on their wagers.

Vanilla warrants, also called "plain vanilla warrants", are basically the archetype of every geared product that provides leverage. They are nothing more than securitized standard options without any extras built in. There are two basic types of options: options to buy (calls) and options to sell (puts).

A right, not an obligation

By buying a call option, you acquire the right to buy (call) a particular underlying asset (equities, currency pairs, interest rates, precious metals, indexes) on or before the expiration date at a pre-determined price (strike price). A put option, by contrast, carries the right to sell a particular underlying asset on or before the expiration date at the strike price.

An American-style option lets you buy or sell the underlying at any time; a European-style option, by contrast, can only be exercised on the expiration date. These names are just categories and say nothing about the option's geographical origin.

Three properties that you should know

Alternatives. Option holders can choose from several courses of action prior to the expiration date. If the price of the underlying asset moves in their favor, they can sell the option at a profit or, for an American-style option, exercise it and buy (call) or sell (put) the underlying asset at the agreed strike price. If the underlying asset moves against them, they can let the option expire or sell it in the market, where it will fetch a price equal to its residual value, if any. The maximum possible loss is the initial outlay. The amount paid to the option seller is an option price.

Leverage. Warrants are leveraged investments: investors participate in the performance of the underlying asset, but restrict their stakes to the option price. And the price is only a fraction of the cost of the underlying asset. Leverage can, however, work in the opposite direction. If the market moves against an investor, they may lose all of their initial outlay.

Influencing factors. Option prices depend on several variables: the maturity, the underlying asset and its volatility, interest rates and any dividends generated by the underlying asset. All these factors are used to calculate the option price and can affect it positively or negatively. Option prices can respond violently to small changes in a factor. See Lesson 4 for details.

Call and put warrants

Your profile

You have a clear view of how the price of a particular underlying asset may develop – and when its performance will unfold. For that reason, you want to obtain higher-than-usual exposure to the asset's performance. You know that leverage can quickly turn against you. But you are risk-seeking and can tolerate the complete loss of your initial investment.

Your opportunities

Through leveraged exposure to rising (call warrants) or falling prices (put warrants), you can earn outsized profits on movements in the underlying asset's price. Theoretically, the upside on calls and puts is unlimited. Puts on equities and precious metals, however, do have a maximum profit ceiling because the underlying assets cannot be worth less than zero. The potential downside is restricted to the option price. Vanilla warrants can also be used for hedging.

Your risks

Leverage inevitably involves greater risk since it magnifies both increases and decreases in price. Option performance is hard to predict because it depends on a wide array of factors such as maturity, the underlying asset, volatility and any dividends. In the worst case, investors can lose their entire initial capital.

SSPA product category: Leverage without knock-out (2100)

Discount warrants
Pay fire-sale prices for leverage.

In relatively stable markets, discount warrants are a viable alternative to conventional options. Because they are inexpensive, they break even fairly quickly.

Sometimes the markets show no clear trend and prices dawdle along at a snail's pace. In these times, shrewd investors can still skim profits off small price movements using discount warrants.

Discount call and put warrants are much like standard options. So what is the difference? Discount warrants are available at discount prices compared to conventional warrants. This lower price comes at a cost, however: limited earnings *("cap")*. Their prices also behave differently from those of vanilla warrants during their lifetime.

If the underlying assets stay within a fairly narrow corridor, investors can capitalize on price movements with discount warrants in much the same way as with conventional warrants – except they pay less and so use more leverage. To generate the same profit with a traditional warrant, the price movement must be much more drastic. But be forewarned: discount warrants offer limited upside if the underlying assets fluctuate more dramatically than expected. In turbulent periods, investors are generally better off with conventional warrants.

The "discount" mechanism

Discount warrants utilize a *spread strategy*. This requires you to have a clear image of the underlying asset's performance. Imagine an investor who expects the price of a particular security to rise 10 percent from 100 to 110. It makes no sense to buy a call option that would let him participate in any increase in the underlying asset's price past 110. What the investor can do, however, is to sell a call option with a strike price of 110. The sales proceeds can be put towards buying a call option with a strike price of 100.

In other words, a spread strategy means you buy one option while simultaneously selling another. With a discount call warrant, you acquire a call option with a particular strike price (e.g. 100) and simultaneously sell a call option with a higher strike price (e.g. 110). This determines your maximum return. With a discount put warrant, you acquire a put option at a certain strike price (e.g. 100) and sell a put option with a lower strike price (e.g. 90). The difference between the two strike prices is the maximum profit. A discount warrant embeds this strategy in a product – investors can acquire it with a single transaction.

Three properties that you should know

Discount. The option prices for discount warrants are much cheaper than for vanilla warrants. The upside, however, is limited. The product sells at a discount thanks to an embedded spread strategy.

Spread strategy. You sell a call warrant with a higher strike price on the underlying asset while also buying a call warrant with a lower strike price on the same underlying asset. Since the warrant sale generates income, the discount warrant can be issued at a lower price. A discount put warrant takes the exact opposite position. You sell a put warrant with a lower strike price and buy a put warrant with a higher strike price.

Influencing factors. The price of a conventional warrant depends on not only the underlying asset and the option's maturity, but also on other factors such as market volatility. In fact, volatility often has a major impact on warrant prices. Since their upside is limited ("cap"), discount warrants may respond very little – depending on their remaining lifetime – when underlying assets swing up above the cap.

Discount call and put warrants

Your profile
You have a clear view of the underlying asset's future performance over a given period of time. With a discount warrant, you can generate above-average profits on modest projected price movements. However, you should understand how they work and select the right target range for your price expectations.

Your opportunities
You secure a high upside with a small amount of capital – even though the markets are relatively calm. Your potential loss is restricted to the price paid for the discount warrant.

Your risks
Your upside is limited, and the gearing can vary. Influencing factors such as implied volatility, interest rates, maturity and dividends can affect your investment positively and negatively. As with every leveraged product, the leverage can also work against you. Investors can lose their initial capital.

SSPA product category: Leverage without knock-out (2199)

Double lockout warrants
Sailing forward without wind.

With a double lockout warrant, you can profit from underlying assets that move leisurely within certain boundaries.

Even clever investors run out of ideas when the market falls into a lull. But this does not have to be the case. Double lockout warrants were invented specifically for sideways markets.

Despite its complicated-sounding name, this instrument is very easy to understand. A double lockout warrant has built-in upper and lower price limits. If the underlying asset remains within these boundaries without touching either one during the term of the contract, you will receive a defined payout on maturity. The tighter the range, the higher the risk for you.

If the price of the underlying asset touches or breaches one of these limits, the double lockout warrant expires worthless. Investors lose their initial capital.

All or nothing

Double lockout warrants are "all or nothing" instruments at maturity. Prior to maturity, though, their value changes constantly. A double lockout warrant increases in price when the underlying asset hardly budges and moves leisurely between the two limits.

If the underlying asset suddenly takes off and approaches one of the limits, the warrant's value will inevitably drop. Implied volatility will also heavily affect a double lockout warrant – but in the opposite direction compared to vanilla warrants. The smaller the price fluctuations, the less likely it is that the underlying asset will touch one of the two limits – making the warrant more attractive. Likewise, the warrant price drops as volatility rises.

Three properties that you should know

Price corridor. The upper and lower barriers represent the core of the double lockout warrant. If the underlying asset remains within these limits, you can expect to receive a certain sum at maturity. If it touches a barrier, the double lockout warrant will expire worthless.

Clarity. The price corridor makes a double lockout warrant a binary system: either you receive a pre-determined payout at maturity, or you do not. There is nothing in between. For that reason, investors are well-advised to keep a close watch on these products and sell them at a profit at an opportune time – before the underlying asset comes dangerously close to one of the limits.

Influencing factors. Like conventional warrants, double lockout warrants are affected by several factors. Volatility, however, has the exact opposite effect on them. While price fluctuations boost the prices of vanilla warrants, they lower the value of a double lockout warrant.

Double lockout warrants

Your profile
You believe that certain assets will move gently sideways and want to profit from this. You also expect volatility to remain low. And you are willing to take on risk.

Your opportunities
You can enjoy an attractive upside even if the markets show no trends and march in place. During the warrant's lifetime, you can profit from rising prices with double lockout warrants wherever volatility remains low or even falls. At maturity, you receive a defined sum of money as long as the underlying asset did not touch the upper or lower barriers.

Your risks
Your upside is limited. Variables such as implied volatility, interest rates, maturity and dividends can positively and negatively affect double lockout warrants. As with every leveraged product, the leverage can also work against you. In the worst case, where one of the barriers is breached, investors will lose all of their initial capital.

SSPA product category: Various leveraged products with knock-out (2299)

Turbo warrants
Shift to a higher gear.

Turbos are ideal for betting on an expected market trend. Their leverage is generally greater than that of vanilla warrants – but so is their risk.

The name says it all: with turbo warrants, investors can turn on the turbo and boost potential returns by a wide margin. They can bet on both rising (call turbos) and falling (put turbos) markets.

Turbos are less expensive than vanilla warrants and so generally provide more leverage. But investors have to pay a price for the opportunity to earn higher returns: increased risk in the form of a built-in ***barrier***. Barriers should never be touched or breached – whether in traffic or in turbo warrants. If an investor bets on rising prices by buying a turbo call warrant and the underlying asset hits or breaches the barrier, the turbo call warrant expires immediately without value – its term ends prematurely.

A turbo put warrant, by contrast, is geared towards falling markets. If the underlying asset belies expecta-

tions and moves to or above the barrier, the turbo warrant has to be written off as worthless.

Leave the ring before the knockout

Turbos can also be traded on an exchange after being purchased. That is why investors are advised to watch the underlying assets' performance closely and sell the turbo warrants if they come close to a ***knock-out*** – expiration without value.

Three properties that you should know

Understandability. Turbo warrants mirror the performance of their underlying asset almost perfectly. This makes them transparent and easy to understand. There is one exception, however. There may be price swings if a dividend is paid for the underlying asset during the life of the contract. Implied volatility, which strongly influences the price of other warrants, does not affect turbo warrants.

Barrier. Turbo warrants have built-in barriers. These are generally fixed with the strike price and determine the gearing. The strike price and barrier are below the current market price for turbo call warrants and above it for turbo put warrants. If an underlying asset touches the defined price barrier, the turbo warrant expires worthless. Investors lose their initial capital, and their participation in the underlying asset ends abruptly. Although the barrier increases the risk of loss compared to vanilla warrants, it also brings down the price of the turbos – which in turn leads to greater leverage.

Leverage. The closer the strike price and the barrier are to the underlying asset's current price, the cheaper the turbo warrant and the greater its leverage. However, turbo leverage works in both directions. A greater upside also means an increased risk of loss.

Turbo call and put warrants

Your profile

Do you have a clear opinion of the market and want to profit from it? If you fit this profile and are also risk-seeking, you can use turbos in all kinds of strategies. You can, for example, hedge an equity position with turbo put warrants, or you can bet on rising or falling prices.

Your opportunities

Turbos produce great leverage. You can bet on certain price movements or efficiently hedge against them in any market conditions. The fact that volatility does not affect pricing is helpful and the reason why turbos reflect the underlying asset's price performance in a transparent and mostly linear way.

Your risks

Gearing can vary considerably. And if the underlying asset hits the barrier, turbo warrants expire worthless. Investors lose all of their initial capital. For that reason, they are advised not to buy any turbos that are trading close to the barrier and to closely monitor instruments after purchase.

SSPA product category: Knock-out warrants (2200)

Mini futures
Leverage the easy way.

With mini futures,
investors can obtain full exposure to the
underlying asset, but they only invest a fraction of it.

Most investors are fascinated by the idea of getting more out of price movements. Some, however, shy away from warrants because they consider their mechanism to be too complex.

The good news is that with mini futures, the latest addition to the leveraged product family, you can invest with leverage the easy way. A mini future's performance is relatively easy to understand because it moves in tandem with the underlying asset. You can bet on rising prices with long mini futures and on falling prices with short mini futures.

Minis for maximum effect

How do mini futures provide leverage? Investors have to finance only a small portion of the underlying asset themselves. The issuer of the mini futures handles the remaining amount – the "financing level". If, say, the underlying asset of a long mini future appreciates significantly, investors will earn above-average profits. The higher the financing level, the greater the leverage. But borrowing money also costs interest. The issuer charges the investor for the financing costs by adjusting the financing level on a daily basis.

The name "mini futures" reminds us that these instruments operate much like futures contracts, but with unlimited maturities.

Mini futures may be easy to understand, but you can easily get burned if the prices start moving against you. Mini future investors should be risk-seeking.

Three properties that you should know

Financing level. Mini futures provide leverage by only requiring investors to pay a small fraction of the price of the underlying asset. The issuer contributes the rest. The closer the financing level is to the price of the underlying asset, the greater the leverage. The financing level is below the current market level for long mini futures and above this level for short ones. To keep matters simple, the issuer's financing costs are included in the financing level calculations. If the underlying asset hits the stop-loss level, the product is liquidated and any remaining cash is paid out.

No margin call. Unlike conventional futures, the value of a mini future can never drop below zero. Investors never have to put up additional money because these instruments feature an automatic loss control function: the *stop-loss level*. The mini future expires if the underlying asset moves against the investor and reaches the stop-loss level. In this case, the issuer calculates the remaining value and disburses it to the investor – provided it is not zero. The stop-loss level is set slightly higher than the financing level for long mini futures and slightly lower for short ones. The level limits the downside risk and prevents a margin call. It should not, however, be confused with capital protection.

Transparency. The pricing of mini futures is simple and clear. Their performance tracks the underlying asset on a one-to-one basis. The percentage increase is greater, however, since you actually invested less in a mini future. A mini future's current value is calculated as the difference between the financing level and the underlying asset's price level. Factors that typically influence options – volatility, maturity, dividends, etc. – have no bearing on mini futures.

Long and short mini futures

Your profile
You have a clear opinion of the market and want to bet on a certain price development. You are willing to take on enough risk. It is easier to understand the price calculations for mini futures than for options. For you, mini futures are a useful alternative because they mirror the movements of the underlying asset in a linear and transparent way.

Your opportunities
Mini futures offer medium to high leverage and allow various strategies. Investors can profit from falling (short) or rising (long) prices. Yet mini futures are transparent and their maturity is not limited from the start. Generally, the lower the interest rates, the lower the cost of the interest charged for the financing level.

Your risks
Gearing can vary considerably. The financing level and stop-loss mark are updated constantly. If the underlying asset reaches the stop-loss mark, mini futures expire immediately, and only the remaining value is paid back – provided it is not zero. Investors can potentially lose all of their initial capital.

SSPA product category: Leverage with knock-out (2210), special characteristic: unlimited maturity

LESSON 4

Where the winds are blowing.

Options form the core of many leveraged products – and are extremely volatile. All the more reason to know what factors affect their value.

Should I sell my warrant now, or should I wait? Before you make this decision, you should know where you are heading. That is not easy: warrants do not embody a possessory claim but a future right that, in turn, refers to an underlying asset. So what determines the value of a warrant?

The value is made up of two components: intrinsic value and time value. A call warrant's intrinsic value takes no time to calculate. It is the difference between the trading price of the underlying asset and the strike price. A warrant only has an intrinsic value if it is in-the-money. The time value, on the other hand, depends on a number of factors whose impact can be understood intuitively.

Strike price

If a call warrant's strike price is significantly higher than the current price of the underlying asset, the warrant will not really appeal to investors. Its intrinsic value is zero. It would make no sense to exercise the right associated with the warrant since the underlying asset can be purchased for less on an exchange. It is quite the opposite with a put. If the strike price is significantly lower than the underlying asset's current price, no sensible investor will exercise the right to sell – if anything, they will sell the underlying asset directly and earn a higher return. However, as long as enough time remains until the warrant expires, the investor can hope that the underlying asset will move in their favor.

Price of the underlying asset

This is essentially the same concept: if the underlying asset appreciates, the price of the call soars. The higher the underlying asset's current price, the lower the risk associated with the call. But if the underlying asset falls through the floor, it will drag the call down with it. Leverage has a negative effect in this case. Still, there remains a flicker of hope if the warrant's expiration date is a long way off. Perhaps the underlying asset will recover to an attractive level. Now, what about the put? Its response is contrary to that of the call: it rises when the price of the underlying asset drops.

Remaining lifetime

There is a rule of thumb for both calls and puts: the longer the remaining "life expectancy", the longer the securitized option is valid and the better the chance that the underlying asset will move in your direction. At the least, the warrant will then have a time value – even if it is deep out-of-the-money. If, however, the expiration date is around the corner, the warrant's actual time value is often virtually nil. It is extremely rare for an underlying asset to make the longed-for price jump at the very last minute. No matter how positive an impact the longer maturity may have for the buyer of a warrant – for the issuer, it potentially means a greater liability.

Volatility

The lifetime factor is linked with implied volatility. This refers to the average fluctuation range expected by market participants for an underlying asset. The more violently an underlying asset fluctuates, the more likely it will reach the targeted level at some point. If an underlying asset hardly budges and is clearly below a call's strike price, it is unlikely that the call will go back into the money. So, if everything moves at a leisurely pace, warrants tend to be less expensive – but boring. Call or put, it does not matter: volatility gives options a boost.

Interest rates

Warrants with longer maturities are especially vulnerable to interest rate changes. You will have to use your imagination to understand this: if you buy a call, you can profit from, say, a currency's performance. Thanks to leverage, you invest less than with a direct investment. The rest of the money can stay in a fixed income investment. Now, the higher the interest rates, the better off you will be with your call warrant than with a direct investment. The value of a call option therefore rises as interest rates go up. The opposite goes for a put: its value drops if interest rates go up.

Dividends

If a call warrant is on an equity or a share index, changes in expected dividends may affect its value if the term of the warrant extends beyond the dividend payment. As a warrant is a deal on the futures market, the expected dividend is factored into the price of the underlying equity. If the equity's expected dividend increases, the price of the underlying equity on the futures market and thus the price of the call warrant sink. This is because warrant holders do not receive dividend payments. If the expected dividend decreases or lapses completely, the price of the underlying equity on the futures market and thus the price of the call warrant rise. The signs are simply reversed for a put.

Influencing factors have a different impact on different instrument types

	Vanilla warrants	*Discount warrants*	*Double lockout warrants*	*Turbo warrants*	*Mini futures*
Underlying asset	High	Medium	High	Very high	Very high
Volatility	High	Medium	High	No impact	No impact
Time	Medium	Medium	Medium	No impact	No impact
Interest	Low	Low	Low	Low	Medium
Dividends	Low	Low	Low	Low	No impact

LESSON 5

First steps towards a leveraged product.

Leveraged products are not for the risk-averse. Using them requires skill. A step-by-step guide for effectively trading warrants etc.

1. "My view of things"
Where are the markets headed? What trends do you see? Anyone who is interested in warrants should form an opinion on the major developments in the financial markets. But that alone is not enough. Investors must also have concrete ideas about how to profit from the expected scenario: Which equity might appreciate, and by how much? Which currency might come under pressure? The possibilities are virtually endless since leveraged products can be used to bet on both rising and falling prices. Next, you should train your sights on the assets addressed by your investment idea. Watch their behavior and set a price target.

Finally, you can look for a leveraged product to suit your investment idea.

2. "Timing is everything"
The expected timeframe is a key question for every investment idea. When do I expect the price to move, and by how much? If an investor is confident that an underlying asset will take off shortly, they will not need a maturity of more than a year. There is no need to pay the premium for that. However, if the investor feels unable to make a short-term forecast but is absolutely convinced that a company will turn the corner in two years, then the recommended maturity is at least this timeframe.

3. "A question of price"

A leveraged product's strike price is just as important as its maturity. These two factors determine the character of the leveraged product and should not be viewed separately. The strike price should be closely linked to your personal price target. Let's assume that an investor expects an underlying asset to appreciate from 100 to 110 francs within three months. They would be well advised to set a strike price for a call warrant close to their target of 110 francs in order to take advantage of the movement. They do not need a strike price of 130 francs – even though they might gain even more leverage during the life of the contract. Note: It is possible to sell warrants at a profit while approaching the price target. However, if the underlying closes at or below the price target on expiration, the warrant will expire worthless.

4. "Remain vigilant"

Geared instruments are highly sensitive to the underlying asset's performance and other influences. They move rapidly and violently – and can suddenly take a turn in the wrong direction. In other words, it takes more than skill and nerves of steel to invest in a leveraged product. You must also be willing to monitor the market and the performance of your investments every day and critically review your positions. Hands-off investors, be forewarned: leveraged products are not for you!

5. "Risk yes, but by design"

No return without risk: this is the first commandment of financial investments. When it comes to leveraged products, investors should remember that the higher upside comes with more downside risk. If you cannot afford to lose money and do not want "any stress", you should steer clear of leveraged instruments. After all, not even experienced professionals always bet on the right horse. It is therefore extremely important to only spend as much money on a transaction as you can afford to lose – even if the markets go south very quickly. Warrants are not for emotional investors.

6. "Know when to walk away"

An old stock market adage says to "cut your losses and let your profits run". Hope is a truly bad advisor when it comes to leveraged products. Experience has shown that it makes more sense to sell loss-making warrants and cut losses short than to keep hoping for a miraculous recovery till the bitter end. Wishing for even higher returns may also be counterproductive. It is often better to bring in the harvest before a frost suddenly falls on the stock market. What works well is to set profit targets and *stop-loss limits*.

LESSON 6

Where can I *learn more?*

UBS prepares easy-to-read information with key figures for every leveraged product it issues. Where to find information and what to look for.

There are thousands of leveraged products on the market. Every day, some expire and others are added. Each product has different terms, which makes it important to understand the product's conditions and risks in detail, and learn how it works.

Term sheet

All relevant information about a UBS leveraged product is condensed onto one data sheet: the term sheet. These concise information sheets are available on UBS Quotes, the online financial information system, and on the UBS Keyinvest portal. The Swiss Structured Products Association (SSPA) has set minimum information requirements for term sheets. For instance, the term sheet must contain not only the product name but also the product type according to its SSPA classification. This helps when comparing the product to securities from other providers – for example, with the "Product finder" tool on the SSPA website: *www.svsp-verband.ch*

UBS Keyinvest

This UBS portal opens the door to the world of leveraged products and all structured products in general for investors. It contains all relevant information and brochures about these instruments – including the term sheets: *www.ubs.com/keyinvest*

UBS Quotes

Investors can find prices and research on all kinds of investments in the UBS Quotes online financial information system. To obtain full access to the system – including real-time prices – they must have an e-banking or online services agreement with UBS. Not only can investors keep an eye on the underlying assets with UBS Quotes, they can also use the "Product finder" function to find all leveraged products, including new issues: *www.ubs.com/quotes*

Payoff diagram

The name says it all: this diagram charts the profit or loss an investor can expect when the warrant expires, depending on the price of the underlying asset. The price of the underlying asset is entered on the horizontal axis, the payoff on the vertical one. UBS has included most product types in the payoff diagram. A note of caution, however: the diagrams are only illustrative and offer no information about the actual terms.

UBS warrants newsletter

UBS's warrants newsletter offers a trader commentary on the market or a selected security twice every week. You can subscribe to the newsletter at: *www.ubs.com/swisswarrants*

Personal advisory services

No investor should have to worry so much about leveraged product issues that their head starts spinning. It makes more sense to contact an expert first – and you will save precious time to boot. Contact details are included on every term sheet.

Any other questions?

Feel free to write to us right now: *derivatives@ubs.com*

Understanding the key features

What the product features mean

Call warrant on Adecco
This product is a call warrant on a Adecco share. The product name will not always tell you everything about the product. Many issuers give different names to the same product type. The products can be compared on the website of the Swiss Structured Products Association (SSPA).

Security: 10662480
The securities number is assigned by Telekurs Financial so investors can identify every security in Switzerland. The International Securities Identification Number (ISIN) is used internationally.

SP investment profile: Leverage
UBS and the Swiss Structured Productions Association (SSPA) have developed a classification system for structured products. Each product can be assigned to one of four categories depending on its risk/return profile. Leveraged products belong to the "Leverage" category, which features not only the highest risk but also the highest return.

Issuer: UBS AG
The issuer issues the leveraged products. Since the issuer is basically a borrower, investors are exposed to issuer risk. That is why the term sheets also include information about the issuer's rating.

Type: call, **Style:** American
This is an American-style call warrant. Unlike European-style warrants, it can be exercised anytime during its life.

Issue price: 0.09 CHF
The issuer issues the leveraged products. Since the issuer is basically a borrower, investors are exposed to issuer risk. That is why the term sheets also include information about the issuer's rating.

Strike: 72 CHF
The strike price indicates the price at which the warrant can be exercised.

Ratio: 20:1
It is usually not possible to buy an equity with a single warrant. The subscription ratio indicates the number of warrants required to buy one underlying asset.

Issue amount: 1,000,000
The issue amount means the volume of the securities issued. It may indicate the nominal amount or the number. The issue volume is calculated by multiplying the purchase price by the issue amount.

Payment date: 10/20/2009
The product terms are generally not finalized until the end of the subscription period.

Pricing date: 10/20/2009
Key figures such as the strike price are defined on this date, and the price of the product is determined.

Last trading date: September 17, 2010
Last trading date on the exchange.

Expiry Date: September 19, 2009
Trading date on which the product expires.

Settlement type: Physical
This type of warrant is not settled in cash; instead, the shares are delivered to the investor if they exercise their subscription right.

LESSON 7

What is in a name?

Financial experts are quite creative when it comes to giving names. Brief explanations of key terms used in the world of leveraged products.

American-style option This type of option can be exercised anytime during its life. Since this is convenient for investors, an American-style option costs somewhat more than its European-style counterpart.

Barrier Barriers always work the same way, whether in traffic or in leveraged products. They should not be hit or, even worse, breached. Barriers are predetermined thresholds. There are immediate consequences if an underlying asset's price touches or breaches the barrier: the product is redeemed prematurely or it expires worthless.

Bear (market) A bear is an investor who expects market rates to fall. Accordingly, the prices in a bear market only know one direction: down. This is symbolized by a bear since these animals swipe their paws down when fighting.

Black-Scholes model For many years, the calculation of a fair option price was a hard nut to crack – until two economists, Fischer Black and Myron Scholes, developed a viable formula some 30 years ago. It is still being used and enhanced to this day.

Bull (market) Do not be offended if you are called a "bull". Bulls swipe their horns up in an attack, so this term simply means you expect prices to rise. A bull market is a market where things are looking up.

Call Call also means to "collect" or "demand" – which is often more important in business. A call is an option that gives its holder the right to purchase a specified underlying asset at a predetermined strike price on or prior to maturity.

Callable bull/bear contract These leveraged products, "CBBCs" for short, are particularly popular in Hong Kong. They give investors above-average exposure to an underlying asset. You can bet on rising prices with bull contracts and falling prices with bear contracts.

Cap The sky is not the limit for returns on capped instruments. That is because a cap is a defined maximum return. If the underlying asset begins to soar, investors will only participate up to the cap.

Derivative As the name implies, derivatives are financial instruments that derive their value from the value of an underlying asset, such as an equity. Examples of derivatives are leveraged products and other structured products.

Derivative map This is the popular term for the Swiss Structured Products Association's (SSPA) categorization of structured products. The derivative map sorts products into four categories depending on their risk/return profile. Investors can find the products guide on the association's website. The map is updated regularly.

Discount Warrants with a discount are cheaper than plain vanilla warrants. Also, because of the cap, they offer more attractive leverage in the expected price range than vanilla warrants. The discount strategy is attractive whenever the markets do not appreciate much and stay within the expected price corridor.

European-style option A European-style option can only be exercised at maturity. European-style options are more widespread because they are generally less expensive and easier to manage than American-style options.

Financing level Some leveraged products, such as mini futures, operate much like a partially credit-financed investment in the underlying asset. The borrowed amount is called the financing level. The financing costs for the product are included in the financing level.

Future Futures are standardized contracts to buy or sell an asset at a future time. As such, the quantity and quality of the underlying asset are standardized and the contracts are traded on futures exchanges. The buyer of a futures contract is obligated to take delivery of the underlying asset or to settle in cash on a future date.

Gearing Synonym for leverage.

In-the-money "In the money" means that the option has an intrinsic value as well as the time value. In the case of a call option, the price of the underlying asset is above the strike price; in the case of a put option, it is below.

Issuer The bank that issues a leveraged product is called an issuer. Investors should only pick issuers with excellent credit ratings.

Knock-out A knock-out or K.O. is rarely pleasant. At least it only has financial consequences in options – unlike boxing, where the term refers to a temporary loss of consciousness. If the underlying asset for the option type touches a certain barrier, the option expires – it is "knocked out". The investor loses the money invested.

Leverage Leverage is produced with instruments that offer a large upside to investors with relatively little capital. Leverage always works in both directions – even against the investor. Due to the magnifying effect of leverage, the price movements are much greater compared to the underlying asset.

Long "Going long" means betting on rising prices – either with a direct investment or a leveraged product. For example, you can earn outsized profits from rising prices with long mini futures. A short position, by contrast, bets on falling prices.

Market maker Market makers agree to quote binding bid and offer prices for leveraged products on a regular basis. In most cases, the market maker is the issuer. Even if the products are listed on an exchange, it is usually the market maker who ensures the prices are fair.

Maturity Maturity is the life of a financial product, from issue to redemption, and is defined in advance. All relevant particulars are listed in the term sheet and represent key product features. The remaining lifetime of an option heavily affects the option's current price (time value).

Open end Open end products have no lifetime restrictions. This does not automatically mean the products will run forever. For instance, a mini future expires if the underlying asset reaches the stop-loss mark.

Option As Latin speakers know, "optio" means "free will" or "free choice". As such, options give buyers the right to freely choose whether to buy or sell an underlying asset at maturity. The buyers pay an option price for this right. Since options can also be used for hedging, the price could also be interpreted as an insurance premium.

Option price An option's price is made up of two components: intrinsic value and time value. The option has an intrinsic value if the option is in-the-money. If the option is out-of-the-money, its intrinsic value is zero. The time value depends heavily on the option's remaining lifetime. The shorter the remaining life, the lower the time value. Consequently, the option price equals the intrinsic value plus the time value.

Out-of-the-money "Out of the money" means that the option does not have an intrinsic value, but only a time value. In the case of a call option, the price of the underlying asset is below the strike price; in the case of a put option, it is above.

(Plain) vanilla options Unlike exotic options that come with extra features, vanilla options – also called plain vanilla options – are conventional, no-frills call and put options. The name comes from vanilla's modern-day reputation as a common, unexciting flavoring.

Product finder The SSPA provides a "Product finder" on its website. Investors can enter a product's name in this tool to identify the product type and find comparable products from other providers.

Put The terms of sale for put options are specified at the very start. Put options give the owner the right, but not the obligation, to sell the option's underlying asset at a defined strike price at or prior to maturity.

Ratio Latin buffs translate "ratio" as "reason". And, as everyone knows, reason is the be-all and end-all of investing. When used with leveraged products, however, this term refers to the subscription ratio. It states how many underlying assets can be purchased with a given number of derivatives.

Scoach You will not find this word in any standard dictionary. It is the name of the structured products and warrants exchange that was launched in early 2007. It is a joint venture of the SIX Group and Deutsche Börse.

Secondary market Not all leveraged products are listed on an exchange. Most issuers, however, offer a secondary market for trading during the life of the contract. In other words, they constantly quote bid and offer prices. For investors that means the secondary market is not secondary at all; it is extremely important. In Switzerland – on the Scoach exchange – trading begins at 9:15 a.m. and ends at 5:15 p.m.

Short Investors who "go short" expect prices to fall. They sell their investments or use leveraged products to bet on falling markets. They can, for example, earn above-average profits from falling prices with short mini futures. A long position, by contrast, bets on prices rising.

Spread (bid/ask spreads) In the world of warrants, a spread denotes the difference between the bid price and the ask price. However, a "spread" can also refer to a difference between other securities. Investors can buy a leveraged product at the "ask price" and sell it at the "bid price". The ask price is always slightly higher than the bid price. The bid/ask spread indicates how liquid an asset is.

Spread strategy A spread strategy is embedded in discount warrants. It consists of buying one option and simultaneously selling another. The sale proceeds from one option reduce the cost of buying the other one.

Stop-loss mark This function is found mainly with mini futures. With conventional futures, investors sometimes have to meet margin calls. In other words, they not only lose their initial investment but have to pay in more money. Mini futures do not have this risk thanks to the stop-loss mark. If the underlying asset moves against the investor and reaches the stop-loss mark, the mini future expires prematurely. Investors' losses are limited because the residual value is generally paid out to them.

Stop-loss order It is easy to cut losses from price drops. Investors simply need to set price limits that will automatically trigger the sale of the securities. Experience has shown that investors who do not set stop-loss orders often wait out losses for too long.

Strike price The price at which an underlying asset is bought or sold when the option is exercised.

Structured products These financial products are made up of different elements, often a fixed income component and a derivative. Unlike conventional investments, structured products have asymmetrical risk/return profiles. They can, for example, come with capital protection functions to protect investors from price falls. The same products can simultaneously offer attractive upside potential. Capital-protected products should not be confused with leveraged products. According to the SSPA, leveraged products are in the riskiest category of structured products.

SSPA This acronym stands for the Swiss Structured Products Association (SSPA), which was co-founded by UBS. The SSPA works to increase transparency in the market and has established a categorization system for structured products.

Subscription period The period during which potential investors can buy a financial instrument at indicative terms. The terms are finalized later, and then the product is launched.

Underlying Short for "underlying asset".

Underlying asset The underlying asset is the basis of a leveraged product. It is the financial asset that a leveraged product is linked to.

Warrants The name given to securitized options in Switzerland. In Germany, they are called "Optionsscheine", or option certificates.

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