

Global Equities and Commodity Derivatives

# Structured Products

Handbook



**BNP PARIBAS**  
CORPORATE & INVESTMENT BANKING

| The bank for a changing world

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# A Global Leader...

- BNP Paribas (rated AA / Aa2)<sup>1</sup>, a European leader in banking and financial services, is considered one of the strongest banks in the world according to Standard & Poor's.
- BNP Paribas Global Equities and Commodity Derivatives offers a full range of equity, fund, and commodity-linked products which can be customised to address the various needs of financial institutions and hedge funds as well as corporate and retail clients.

Global Equities and Commodity Derivatives is part of a strong Corporate and Investment Bank within a diverse and stable group, BNP Paribas, which has positioned itself as a leader in Equity Derivatives. Our renowned quantitative skills in advanced product design allow us to work in partnership with clients, delivering solutions to support your interests, your projects and your business, in all markets.

<sup>1</sup> Source: Bloomberg, 31st January 2010.  
For S&P, rating for Long Term Foreign Issuer Credit is quoted.  
For Moody's, rating for Senior Unsecured Debt is quoted.



### Risk

- Equity Derivatives House of the Year & Structured Products House of the Year 2009
- Highly Commended in Retail structured Products of the Year 2009



### Euromoney

- Best Bank in France of the Year 2009



### Asset Asian Awards

- Best Structured Products House Asia 2009
- Best Derivatives House Asia 2009
- Best Derivatives House Japan 2009
- Best Derivatives House Thailand 2009



### The Banker

- Investment Banking Awards 2009 – Most innovative in Risk management



### The Banker

- Structured Products House of the Year 2009



### Structured Products Americas

- Index Innovation of the Year 2009

# A Forerunner in Structured Products...

BNP Paribas is an established leader in Structured Products, providing solutions to retail distributors, banks and institutional investors worldwide. BNP Paribas offers a rich range of Structured Products, both in terms of underlying assets and payoff structures.

Structured Products designed by BNP Paribas Global Equities & Commodity Derivatives are generally linked to equities, through shares or indices (basket or single) but may also be linked to commodities, funds, foreign exchange, interest rates, inflation and "Hidden Assets."<sup>1</sup> This expansion beyond traditional underlying assets allows investors to gain access to a wider range of diversification opportunities.

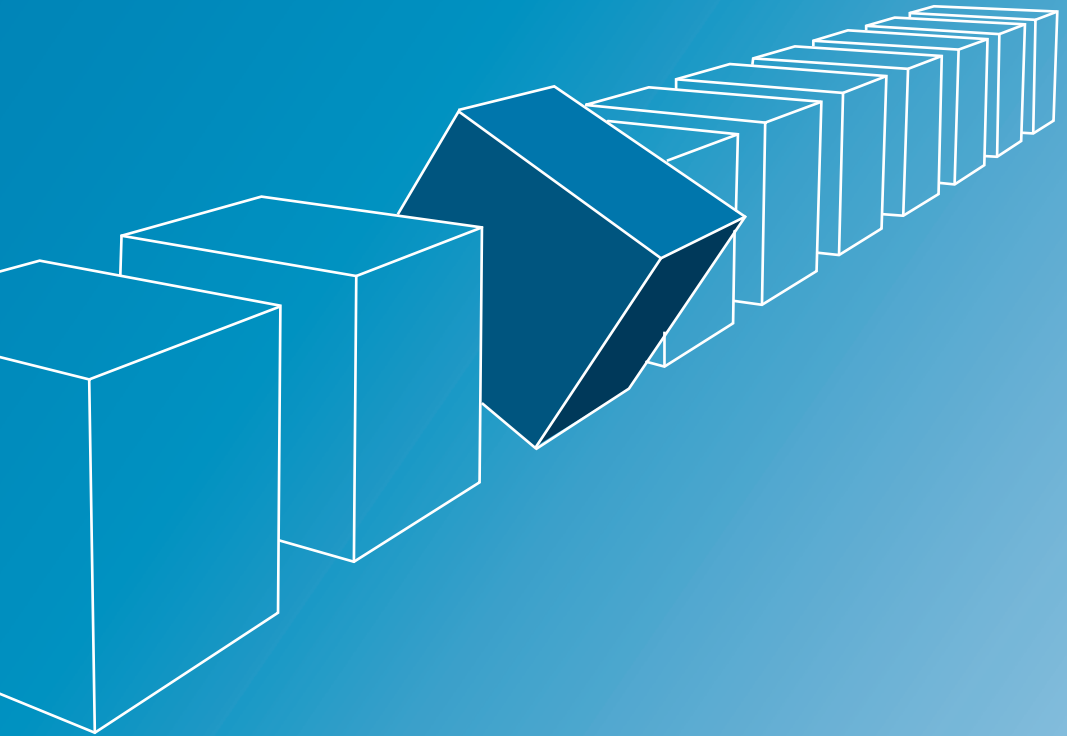
BNP Paribas has a team of experienced structurers offering an impressive spectrum of product expertise. With the design of future Structured Products in mind, BNP Paribas is constantly developing and introducing new products that complement investors' traditional portfolios, which often consist of a mix of equity and fixed income securities.

Structured Products can be constructed to provide investors with new means of enhancing their existing portfolios. They enable clients to access new markets and diverse asset classes, while providing features such as capital protection, leverage or yield enhancement.

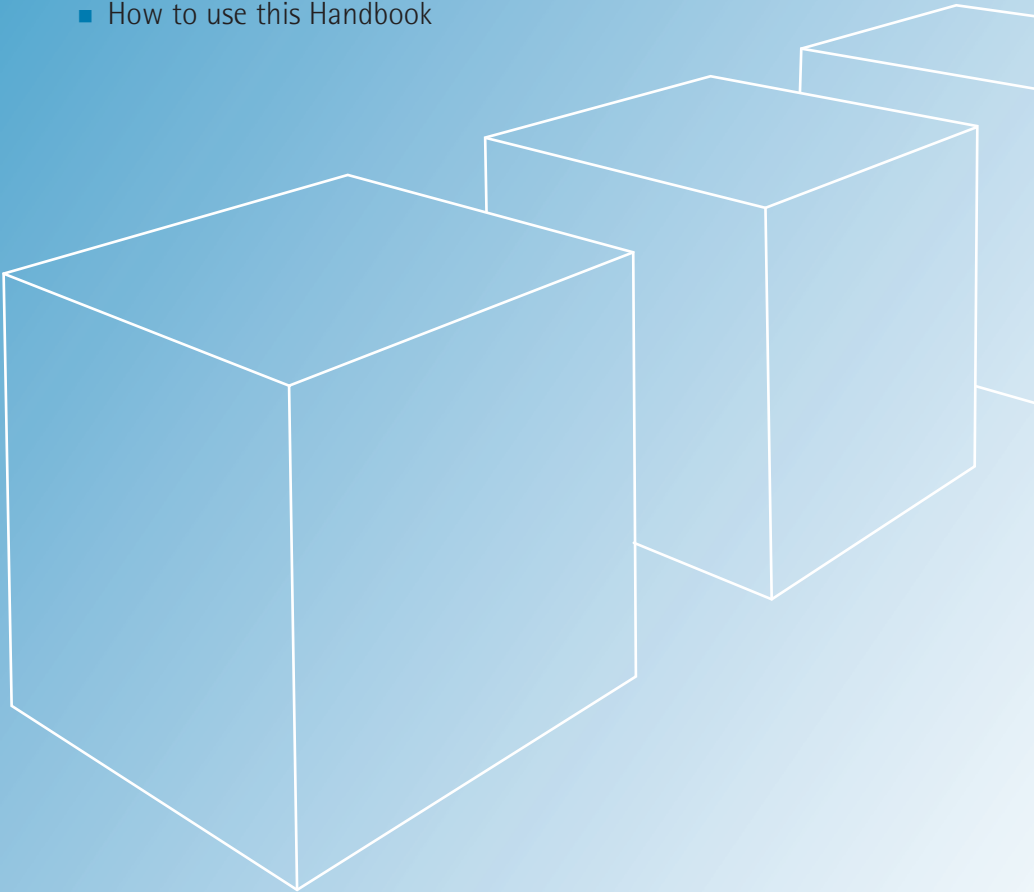
The BNP Paribas Structured Products Handbook 2009 is designed to introduce the reader to Structured Products and how they enable investors to meet their distinct investment objectives. The handbook introduces the range of underlyings available, explains the basic mechanism of Structured Products: the combination of a fixed income security and an option-like instrument, and then provides examples of product structures and the most commonly used wrappers. The appendix gives an overview of options, the building blocks of Structured Product design.

<sup>1</sup> "Hidden Assets" are non-directly observable market parameters which come into account when pricing equity derivatives (e.g. volatility, correlation, etc.) They form a new generation of assets and display portfolio hedging / diversification properties. See page 24.

# Introduction to Structured Products



- What are Structured Products?
- Why use Structured Products?
- How do Structured Products Work?
- Structured Products at your Service
- How to use this Handbook



6 What are Structured Products?

# What are Structured Products?

Structured Products are investments that are fully customised to meet specific objectives such as capital protection, diversification, yield enhancement, leverage, regular income, tax / regulation optimisation and access to non-traditional asset classes, amongst others.

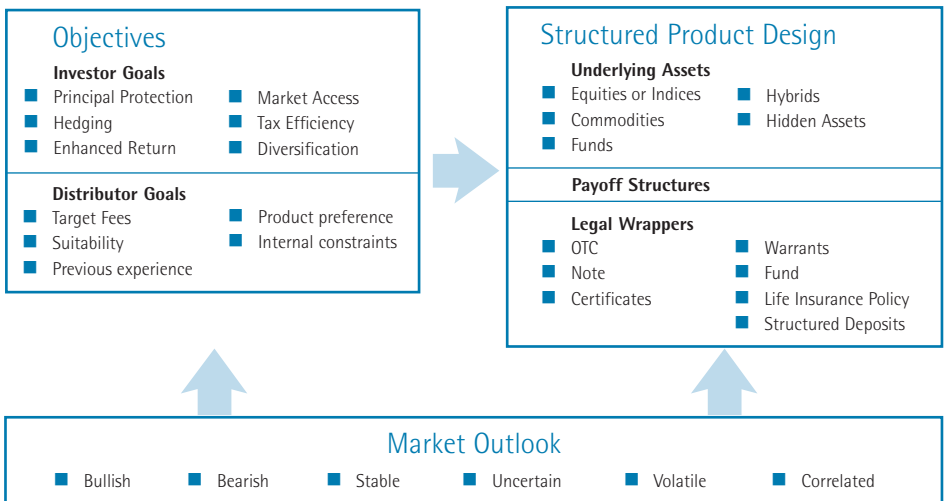
The strength of a Structured Product lies in its flexibility and tailored investment approach. In their simplest form, Structured Products offer investors full or partial capital protection coupled with an equity-linked performance and a variable degree of leverage. They are commonly used as a portfolio enhancement tool to increase returns while limiting the risk of loss of capital.

Structured Products can be extensively customised to meet a specific investor's risk / return profile and investment objectives.

As fully customised investment tools, Structured Products are shaped by numerous factors.

The current [Market Outlook](#) influences both the [Objectives](#) in terms of the [Investor](#) and [Distributor Goals](#) as well as the [Structured Product Design](#).

Simultaneously, the [Investor and Distributor Goals](#) influence the [Structured Product Design](#) which involves selecting the appropriate [Underlying Assets](#), [Payoff Structures](#) and [Legal Wrappers](#). This interlinked process enables Structured Products to be tailor-made, corresponding to the investor and market needs.



# Why use Structured Products?

The key benefits of using Structured Products are:

## Protection

**Principal Protection:** Capital protection at your preferred level

**Hedging:** Protect the portfolio by hedging the risks of existing investments

## Efficiency

**Enhanced Return:** Increase the portfolio's return while controlling risk

**Market Access:** Exposure to new or hard to access asset classes (property, emerging markets, etc.) and hidden asset classes (volatility, correlation, etc.)

**Tax Efficiency:** Benefit from customised, tax efficient portfolio investment solutions

## Diversification

**Diversification:** Diversify with the adjustable risk / return profiles and market cycle optimisation capabilities of Structured Products



8 How do Structured Products Work?

# How do Structured Products Work?

A typical capital protected Structured Product is comprised of two components:

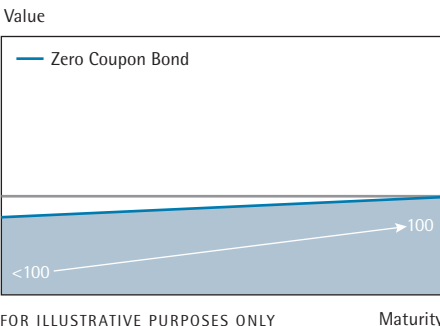
- 1 A **fixed income security**, typically a zero coupon bond, which protects part or all of the invested principal at maturity.
- 2 An **option-like instrument** which provides a payoff in addition to the fixed income payments. This additional payoff is linked to the performance of an underlying asset and takes the form of either regular coupons or a one-off gain at maturity.

In its most basic form, an equity derivative Structured Product consists of a zero coupon bond, purchased at a discount, and an option.

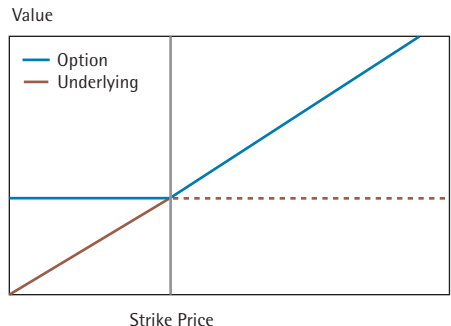
At maturity, the zero coupon bond will be redeemed at par, thereby providing investors capital protection.

The option, which offers investors participation in the equity market, pays out the performance of the underlying at maturity, if it is above the strike price (call option).

Zero Coupon Bond



Call Option Value at Expiration



### Example

An investor wants to invest USD 100 over five years, with full capital protection and exposure to the S&P 500 index upside.

With a five-year US Treasury rate of 2.5% p.a., a five-year zero coupon bond is worth 88.4, i.e. 100 in five years is worth 88.4 now. This leaves the structure provider with 11.6 (i.e.  $100 - 88.4$ ) to purchase an option on the S&P 500 and pay for administration costs and commission.

Assuming a five-year S&P 500 call option costs 12, and adding 2 for administration and management fee costs, the investor will benefit from an 80% [i.e.  $(11.6 - 2) / 12$ ] participation in the S&P 500 upside, while having 100% of his capital protected at maturity.

### Optimistic Scenario

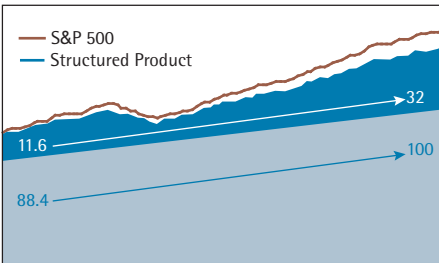
If the S&P 500 goes up by 40% over the five years, the investor will achieve a return of 32% ( $80\% \times 40\%$ ) on top of his initial capital.

### Pessimistic Scenario

If the S&P 500 is down by 30% after five years, the investor will receive 100% of his capital at maturity.

#### Optimistic Illustration

Underlying Value

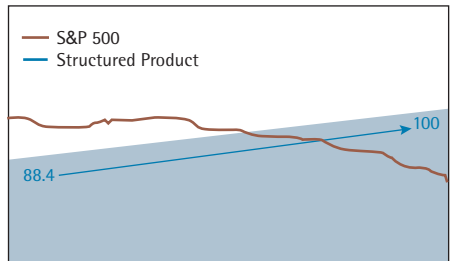


FOR ILLUSTRATIVE PURPOSES ONLY

Maturity

#### Pessimistic Illustration

Underlying Value



Maturity

# Structured Products at your Service

Equity Derivatives have continuously evolved since 1992 both in terms of structure (complex combinations, multi-underlying assets and exotic features) and form (adapting to new regulations).

Recently, volatile equity markets and lower interest rates have forced Structured Products providers to be even more innovative.

As one of the world's top players in Equity Derivatives, BNP Paribas continues to be a leader in Structured Products innovation. Even in rapidly evolving markets, BNP Paribas professionals maintain in-depth knowledge of regulatory matters reinforcing their historical ability to provide investors with optimal solutions to meet their investment goals.

Whatever the investment objective, BNP Paribas' Structured Products offer investors a valuable alternative to traditional investment vehicles. In this handbook, we present the Structured Products that we believe serve your needs as an investor.

# How to use this Handbook

On each of the Payoff pages you will find a Market Outlook Indicator and a Risk Indicator to use as an investment guideline.

The Market Outlook Indicators illustrate the type of market conditions that the product is best suited for.

The Risk Indicator illustrates which risk appetite the product is appropriate for.

## Market Outlook Indicator



Bullish



Stable



Uncertain



Volatile

## Risk Indicator



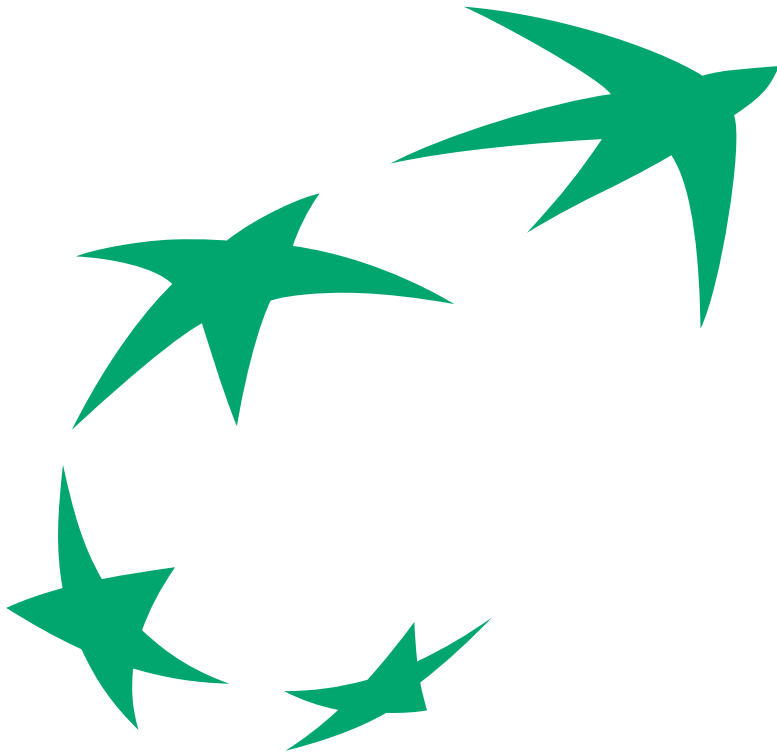
Low Risk



Intermediate



High Risk



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