

SUPER COMPUTER CONSULTING INC.

1070 Westfield Way, Mundelein, IL 60060 USA

Phone: (847) 837-0200

Fax: (847) 837-0228

e-mail: izzy@supercc.com

<http://www.supercc.com>

Convertible Bonds and other Hybrid Instruments

Hybrid Instruments

Introduction to convertible bonds and other hybrid instruments

- Introduction to hybrid instruments
- The market and its size
- Convertibles, Preferred Shares, Elks, Decs, Percs etc.
- The issuers: who issues them and why
- The investors: advantages / disadvantages to the investor
- The brokerage house: a study of the underwriting process
- The secondary market
- Convertible bonds in the US
- Hybrid instruments in emerging markets
- Overnight financing or bought deals
- The Japanese “reset convertibles”
- Reverse convertibles in Germany
- Exchangeable bonds in Canada
- Dual currency convertibles
- Convertible bonds with sinking funds
- Other embedded features
- A catalog of hybrid instruments: the precise definitions of all the different acronyms

Convertible Bonds in Detail

We look under the hood of a convertible bond

- Why use them
- The different regions of a convertible: equity equivalent, hybrid, bond equivalent and the bankruptcy region
- The different types of convertibles
- Convertible = a bond + a warrant ???
- What are their special features and how do they effect the convertible
- Zero coupon bonds (Lyons)
- Call and put options
- The credit spread
- The special risks of convertible bonds
- Dilution
- The “waterfall” effect
- Hedging

The Convertible Bond Investor and Speculator

Several groups invest in convertibles bonds, each looking for different qualities

- Investment managers
 - Risk averse equity managers
 - Income oriented equity managers
 - Risk averse equity managers
 - Income oriented equity managers
 - Convertible specialists
 - Bond managers seeking equity “kickers”
- Hedge funds
 - What do they do
 - How to Delta hedge
 - Special concerns for illiquid bonds
 - Are hedge funds useful to the market or are they detrimental
- What is important to investors in different regions of the world?
 - The US
 - The UK
 - Euro convertible bonds
 - Hong Kong
 - and other regions
- How to design and market convertibles to each type of investor
- What happens in case of issuer default

The Issuer

What type of issuer issues convertibles

- Examining the convertible bond market by type of issuer
- What is the size of a typical convertible issue?
- What kind of credit ratings does a typical convertible carry?
- How to arrange for an attractive deal without giving too much
- What other embedded features can we put in a convertible?
- Is it eligible for 144(A) or not?
- Who issues the other types of hybrid securities and why?
- What types of convertibles tend to be issued in different economies?

Relative value

What are the measures of value for convertibles

- Conversion value
- Conversion premium
- The concept of payback and cash payback
- YTM – yield to maturity
- YTC – yield to call
- YTW – yield to worst
- Premium
- Investment premium
- What is the expected maturity, how to compute it and how to use it

Building a portfolio of convertibles

Basic risk management techniques for convertibles

- Duration
- Understanding the intuition behind duration
- Macaulay duration
- Modified Duration
- What are they used for?
- Convexity
- Key rate duration and convexity
- How to use duration and convexity
 - For investment management purposes
 - For risk management
- Delta and Gamma
- How are Delta and Gamma used?
- How are equity movements hedged?
- Volatility exposure
- Correlation worries

Hedging

Long a convertible bond and short shares

- How to construct a delta hedge
- Bullish, bearish and neutral hedges
- The “carry” trade and how it works
- Being long a convertible bond while being short the shares
- or vice versa
- What is the “haircut”
- The hate / love relationship between issuers and hedge funds
- Computation of the return on capital
- What can go wrong
- The Long Term Capital Management (LTCM) example

Pricing Methodologies for Convertible Bonds

An introduction to pricing theory

- Two ideas
 - the no arbitrage condition
 - the reverse engineering principle
- The interest rate tree
 - how to construct a tree
 - construct the forward curve
 - nodes and probabilities
 - the role of volatility
 - why are trees so powerful
- The stock price tree: risk neutral valuation
- Why is a convertible not a bond plus a warrant
- The Goldman Sachs model
- Two factor models and beyond
- Models on the share price vs. models on the firm value
- How to model credit spreads

- Adapting the models to cope with the special features of convertibles

Dual Currency Convertibles

Special issues relating to dual currency convertibles

- The forward currency curve
- How can these bonds be analyzed
- How can they be hedged?
- Which volatility should you use?

Structured Finance for Hybrid Securities (from Concept to Cusip)

Following a convertible bond on Wall Street as it is created

- The sales team identifies a possible need
- The desk works to come up with ideas
- Comparing the various approaches:
 - Can we do them?
 - Will the issuer be interested? Will there be a market for them?
 - How will they generate revenue for us?
 - How about the risk profile?
- How does the issuer hedge the risks?
 - Does the issuer enter them into their own book?
 - Does the issuer do them back to back?
- Convincing the risk committee
 - Market Risk
 - Credit Risk
 - Liquidity Risk
- Legal and tax departments
- The “beauty pageant”
- Marketing:
 - Creating an appealing term sheet (fax page)
 - Convincing a client to purchase the structure
 - Overcoming their objections
- Pricing
 - An indicative price
 - A firm price
 - Negotiating with the client
- The use of a product prototype
 - Is this a “one off” type of deal
 - Do we expect more of them?
- Do we need to reprogram our entire risk management system?

Special Features

- Reset convertibles: their analysis and features
- Convertibles with a credit guarantee
- Make whole convertibles

Examples

In this workshop we cover examples of hybrid instruments and see how they are analyzed

Some of the products to be covered include:

- Decs

- Percs
- Convertible Bonds
- Mandatory Convertibles
- Preferred Shares

Conclusion

What is the future of the market?