Structured Finance: An Inconvenient Truth

J.V. Rizzi, CapGen Financial

Loyola University, Chicago
April 1, 2008

(The views expressed are those of the presenter and do not represent those of CapGen Financial)
### TABLE OF CONTENTS

1. Introduction: What Happened?
2. Collateralized Debt Obligations: Fantasy Finance?
3. Looking Behind the Curtain: Let’s make a deal?
4. Recommendations: Now What?
5. Conclusion
1 Introduction
Strategy: Peso Strategy - Pays well in all but the worst states where it crashes

(Picking up nickels...)

- Competition: margins squeezed in traditional asset creation and distribution
- Mispricing: risk mispriced given excess liquidity chasing limited opportunities
- Strategic Shift: from intermediary to principal
- Increased risk appetite to offset aging business model

5L Portfolio: asset heavy carry trade

- long
- low
- large
- leveraged
- (i)liquid

appropriateness

- timing sensitive
- problematic value
- requirements
  - Strong Balance Sheet
  - Pricing and Trading Discipline

(...in front of a steamroller)
Value Implications of Risk Appetite Changes

(Not all risk is the same…)

Beware copycat strategies

Evaluate Performance - paying alpha bonuses for beta returns. Reflected in declining P/E ratios. Firms shifted risk profiles to increase nominal income, but destroyed value.

(...Risk is the price you never thought you would pay)
Decisions at Risk (DAR)

(Structured finance is a compensation scheme...)

• Framework

<table>
<thead>
<tr>
<th>Uncertainty</th>
<th>Asymmetrical Information</th>
<th>Behavioral Bias</th>
</tr>
</thead>
<tbody>
<tr>
<td>state dependent events</td>
<td>adverse selection</td>
<td>over optimism</td>
</tr>
<tr>
<td>events beyond the data</td>
<td>moral hazard</td>
<td>disaster myopia</td>
</tr>
<tr>
<td>complexity</td>
<td>confuse performance and skill</td>
<td>herding</td>
</tr>
</tbody>
</table>

• DAR Risk level: especially high for option-like nature of structured products. CDO investors synthetically selling insurance on the real estate market.
  -- more sensitive to down markets - put option
  -- accounting
  -- opaque

(...masquerading as a business)
C. Collateralized Debt Obligations
Collateralized Debt Obligations or (CDOs) Definition:

Securities backed by a diversified pool of assets such as loans, bonds and synthetics.

Market

- Size
- Transactions
- Growth

Types

- Cash/Synthetic
- Arbitrage/Balance Sheet
- Cash Flow/Market Value

(...the other 1% a bad name)
Variations

(Is the glass half full or half empty?...)

Portfolio of Bonds/Loans/DCS/“exposures”

SPV or Bank Trading Book

Class A

Class B

Class C

Class X

Manager (Asset Manager or Balance Sheet)

Transferred Synthetically or sold

Synthetic or Credit Linked Note or Bond Issuance

(...it depends whether you are pouring or drinking)
Form vs. Substance

(If you can make money...)

CDOs may be in different forms but the substance remains the same:

• Transfer credit risk (in cash or synthetic form) from a portfolio of “assets”
• Issuance of different tranches of notes/securities collateralized by this portfolio of “assets”
• Similarly, income is distributed to-down (i.e. paying the most senior note holders first) – each tranche represents different levels (and stability) of income based on risk assumed
• Losses are allocated bottom-up (i.e. losses absorbed by junior most trances first) – each trance represents different level of risk

Conclusion – Allocation of risk to cater to different investor risk-return preferences.

(... You can lose money)
Key Considerations: Underlying Asset Class

(No matter how you package it…)

• How liquid is the market
• Risk Characteristics
• Diversity
• Incremental Yield: is it real, or did we miss something?

(…toxic waste is still toxic)
Key Considerations: Structure

(Good contracts with bad assets…)

- Leverage
- Subordination
  - Cash Flow
    - Pre Default cash flow distribution
    - Post Default distributions
      - Trigger levels
      - Coverage level
      - Bankruptcy priority
- Trading Restrictions
  (...leads to unpleasant results)
A Flawed Securitization Model

(Do you want to believe what you see…)

• In place of the implicit guarantee of the US Treasury with GSE paper, Wall Street substituted made to order ratings and guarantees from thinly capitalized entities.

• Resulting in an enormous market comprised of unregistered and securities deliberately opaque securities, which are unstable, which have virtually no support from dealers or investors, and for which banks retain de facto liability.

(…or what I am telling you?)
3 Looking Behind the Curtain
Bank Originators

(Is the glass half full or empty…)

Structured Finance: Ratings vs. Fundamentals driven

Problem: Originators comfortable to hold AAAs super seniors with premium returns (5L)

Economics: Super senior effectively hold unexpected risk, while expected RISK held by subtranches

- Undercompensated Senior
- Overcompensated junior

• Effectively a short on the underlying index but priced at discount to selling insurance
  Generates runs of small steady income with occasional crashes (risk of ruin in bad states)

RISKS: neglected

• Short correlation: Probability of exhausting subtranches increases as defaults become correlated
• Negative convexity: Rate of price declines increases as default rise
• Liquidity Risk: Cannot exit
• Leverage: Amplifies
• Rating: Not all AAAs are the same. AAAs earning premium returns are not AAA

Result: Institutions have written off substantial portions of Super Senior CDOs

(...it depends on whether you are pouring or drinking)
Structured Products

(Do you want to believe what you see…)

Perfect Moral Hazard Product
  High apparent returns: fake alpha
  Illiquid: Poor man’s alpha
  Opaque: Mark to market becomes Mark to Need
    Negative Basis Swaps
  Regulation: Limited

Market Correction
  Remedies
    Lemons Market
      Reputation
      Certification
      Guarantees
      Disclosure

(…or what I am telling you?)
RISK MANAGEMENT ISSUES

(Risk Managers produce numbers for people to know about what could happen…)

Confusing short term performance with skill

Create small scale stellar returns
Allocate large sums to replicate
Generate large losses in highly leveraged bad investments

Risk of Ruin

Short term bad event

Key Issues
Evaluate
Compensate
Capitalization

(…if what they think cannot happen happens)
Managing the Bubble Bath

(In a storm...)

Avoid the bubble: difficult
Ride the wave: Keep seatbelts buckled
understand and manage the risk through the cycle
clearly defined risk appetite and exposure management
- concentrate on consequences not probabilities

- run multiple scenarios: single scenario strategy, the current scenario only, are dangerous deadens.

Bankroll management: hold enough capital to stay in the game because short term variance can wipe you out
Compensation system adjustments
short term results largely based on noise and luck
long term results determined by skill

(...we all get wet)
Rating Agencies

(Not the Supreme Court...)

Structure vs. Underlying Fundamentals

Structured Finance as Rating Exploitation/Arbitrage

Corporate, municipal, sovereign AAAs

Structured Finance AAA Model

Statistical

State Specific

Scientifically miscalculated - again

CDO have different systematic risk exposure than single name counterparts

Cannot diversify systematic risk

diversification leads to correlation risk

(...of Finance)
Regulation

(Politicians need for villains…)

Increased Regulation
  Overreaction
  Substitute one form of error for another

Lessons
  Conservation of RISK
  RISK compensation
  Toddler effect
  Goodhart’s Law

(…offers no useful guide to solutions, H. Minsky)
Strategic Issues

*(Giving back all your profits…)*

Declining Business Model

Originate to Distribute

Integrated Banks/Universal Banking Model

Strategic Risk Analysis vs. Transactional

Good Business

Risk Implications

*(…every 4 years doesn’t sound like a good business model to me – K. Lewis)*
4 Recommendations
Governance failure

(We do not need better models…)

Unnoticed Risk Appetite Change
Failure to understand Risk Implications of Strategy
Inconsistent capital Structure and Stakeholder Communications
Top management and Board failed to understand arcane models
Entering new activities can misalign incentives requiring organizational, compensation and control structure changes

(…we need better governance)
The Board and Risk Management

(Ignorance is not bliss…)

Although 90% of directors say they understand the risk implications of the current strategy…

- Only 77% of directors say they understand the risk/return tradeoffs underlying the current strategy
- Only 73% of directors say their companies fully manage risk
- Only 59% of directors understand how business segments interact in the company’s overall risk portfolio
- Only 54% have clearly defined risk tolerance levels
- Only 48% of boards rank key risks
- Only 42% have formal practices and policies in place to address reputational risk

Source: The Conference Board

(…it is rot)
Suggestions

(Impossible to make things foolproof...)

Transparency

Exchange Traded Instruments – form of certification

Involved Boards

  Clear understanding of RISK appetite and RISK changes
  Appreciate RISK implications of strategy
  Review incentive impact of compensation programs
  Combine RISK and compensation committees
  Establish capital structure consistent with RISK appetite

Control Shareholder: the private equity solution

  Need regulatory easing of BHC regulation to permit private equity involvement
  Large active shareholder would restore the governance balance

(...because fools are so clever)
President’s Working Group on Financial Markets Recommendations (March, 2008)

(Structure Finance – Fantasy Finance…)

- Mortgage Broker Licensing Standards
- Enhanced Disclosure
- Reform Rating Agencies
- Address Risk management Weaknesses
- Improve Incentives

(… Or Real Finance)
5 Conclusion
Conclusion

(There are no winners in markets…)

Nothing wrong with higher RISK
  Compensated
  Withstand an adverse event
  Alignment of interests
Problem – governance not stochastic calculus
Solution – governance improved ownership structures
Recognize permanent change

(...just losers and those who got out in time)