

Andrew Robertson has over 20 years experience in Financial Markets spanning banking and regulatory roles. He is currently the Head of CIB Compliance for Deutsche Bank AG Singapore Branch and has responsibility for Markets Compliance - Asia. In this role he works closely with Senior GM Management, Businesses and local Compliance officers providing advice and guidance on the mitigation of compliance risk for significant transactional, regulatory and reputational matters. He has been with Deutsche Bank in Singapore since 2004.

Andrew was previously the Asia Pacific (ex Japan) Regional Head of Compliance Risk Assessment at UBS AG where he was responsible for performing independent evaluations on the adequacy of policies, procedures and systems of the firm to provide reasonable assurance that significant regulatory and compliance issues within the Business areas were identified and mitigated.

Andrew was the Head of the Surveillance Department at the Sydney Futures Exchange with primary responsibility for market supervision and enforcement before taking roles as Head of Global Markets Compliance at NatWest Markets Australia and Deutsche Bank AG Sydney.



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Derivatives: Regulatory Challenges from an Industry Perspective

IOSCO STP 2011, Kuala Lumpur

Passion to Perform

Andrew Robertson
29 November 2011

Agenda



- Derivatives Overview
- Derivatives and the Financial Crisis
- Regulatory Reaction to Crisis
- Key Issues When Analysing Derivatives Transactions
- Derivatives Case Study
- Avoiding Problems with Derivatives
- Appendix



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The Challenge -

To continue to provide timely and appropriate advice to the 25 different CIB Businesses and Infrastructure functions across 14 disparate countries with varying degrees of regulatory maturity and consistency where: the public/private divide is continually blurring; the traditional business - product mandate is being challenged; major changes in distribution platforms; core functions are being outsourced; increased cross jurisdictional deals and boundaries, silos and markets are constantly challenged, requiring a greater knowledge of business direction, products, cross jurisdictional regulations and market practices, ensuring adequate coordination and communication across relevant Risk groups taking into account commercial, cultural, political and reputational sensitivities within an ever decreasing timeframe and continually shifting business and regulatory environment

(AND AT ALL TIMES MAINTAIN A CHEERFUL AND POSITIVE DISPOSITION).



Derivatives Overview

What are derivatives?



Key point is that derivatives are very diverse:

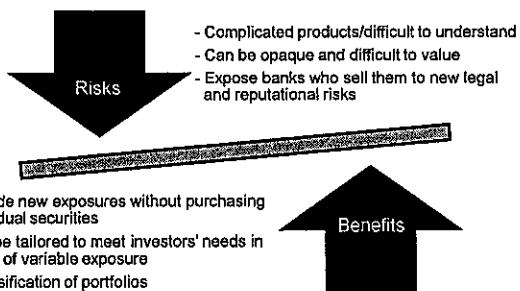
- Diverse underlying products
- Traded OTC or on exchange
- Very leveraged . . . or not
- Cash-settled vs. physical delivery
- Synthetic



Types of derivatives:

- Swaps
- Forwards and Futures
- Options
- Structured Products

Should we use them?



Some Views on Derivatives

- | | |
|--|--|
| <ul style="list-style-type: none"> • "What the critics of derivatives fail to realize is that the markets for these instruments have become so large not because of slick sales campaigns, but because they are providing economic value to their users." Alan Greenspan, 1988 • "Derivatives are financial weapons of mass destruction, carrying dangers that, while now latent, are potentially lethal." Warren Buffet, 2002 | <ul style="list-style-type: none"> • "Derivatives are something like electricity: dangerous if mishandled, but bearing the potential to do good." Arthur Leavitt, 1995 • "People develop a product which makes a modicum of sense, then they extend it to the point of ludicrousness." Satyajit Das, former Citigroup derivatives banker and author of Traders, Guns & Money, 2010 |
|--|--|

How do they work?



Gearing (sometimes called participation)

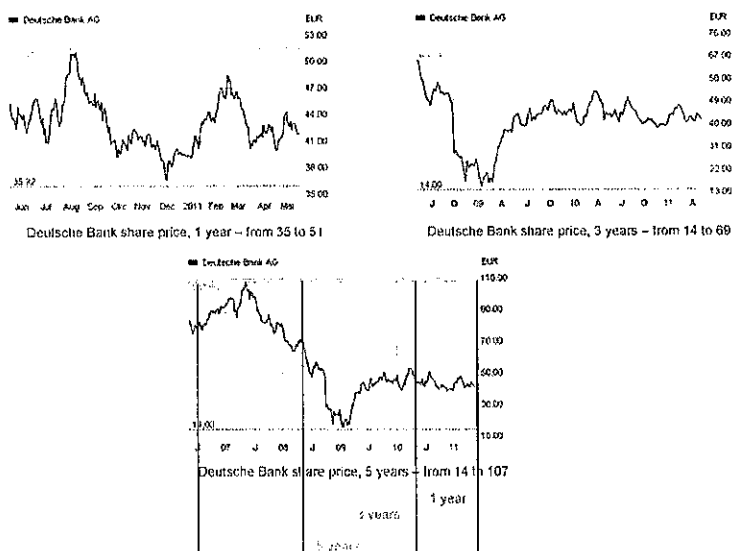
- Refers to the exposure of a derivative to movements in the underlying asset
- Exposures can be capped



What are their risks?



Options Pricing – Based on historic volatility



What are their risks?



Correlation – Based on historic norms

Correlation of Returns Among US Asset Classes Between 1970-2006

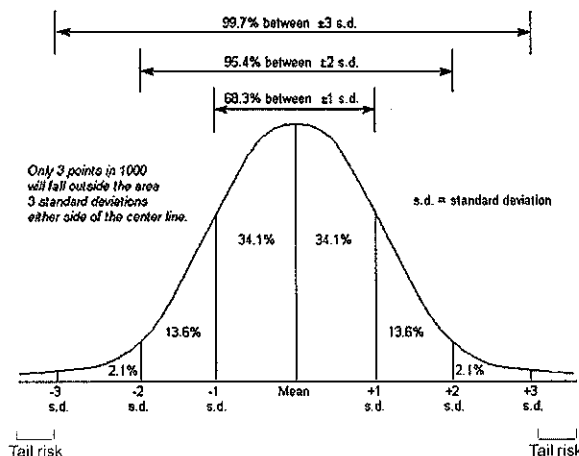
	Large Cap	Mid Cap	Small Cap	EAFE	Corporate Bond	Govt Bond	T-Bill	Inflation
Large Cap	1.000							
Mid Cap	0.759	1.000						
Small Cap	0.615	0.683	1.000					
EAFE	0.602	0.470	0.427	1.000				
Corporate Bond	0.315	0.333	0.270	0.138	1.000			
Govt Bond	0.211	0.254	0.171	0.009	0.349	1.000		
T-Bill	0.008	0.038	0.025	-0.110	0.061	0.155	1.000	
Inflation	-0.292	-0.009	-0.056	-0.214	-0.406	-0.293	0.604	1.000

Source: GenXFinance.com

What are their risks?

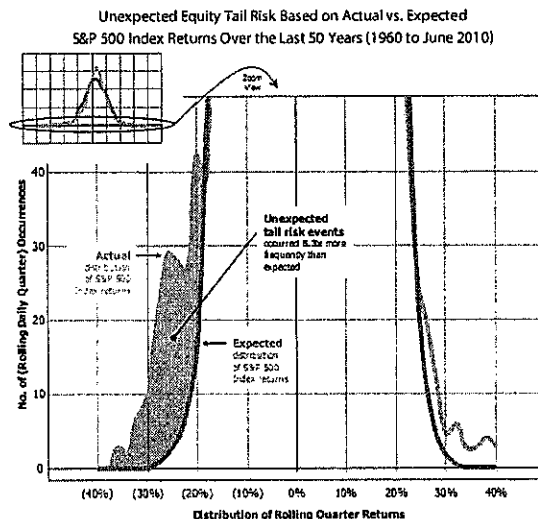


Tail Risk – The risk of an asset moving more than 3 standard deviation from its current price



Source: Syque.com

Is expected tail risk an accurate indicator?



Source: SeekingAlpha.com

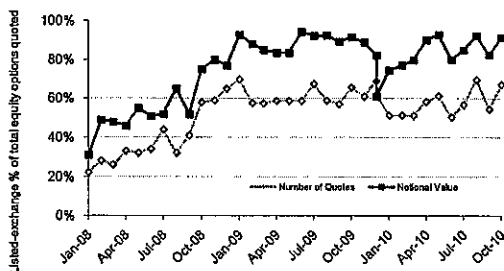
Derivatives and The Financial Crisis



Post-Crisis Trends

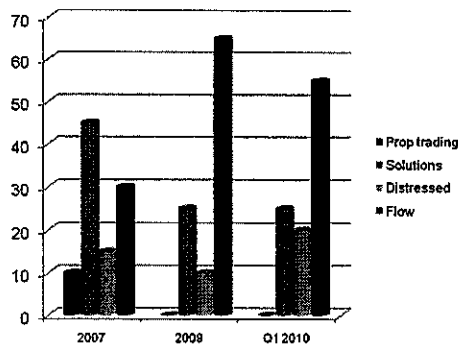


Estimated* listed options volume as a percentage of total options volume (listed & OTC) for European stocks and indices



*Information is based on Deutsche Bank data and may not be representative of the entire market.

Post-crisis shift in Deutsche Bank Global Markets revenue (percentages)



- The financial crisis altered the popularity of various asset classes and products
 - Securitisation volumes declining
 - Numerous commodities achieving record highs
 - Derivatives: Total value of interest rate and currency products has risen, CDS volumes fell; equity derivatives fell

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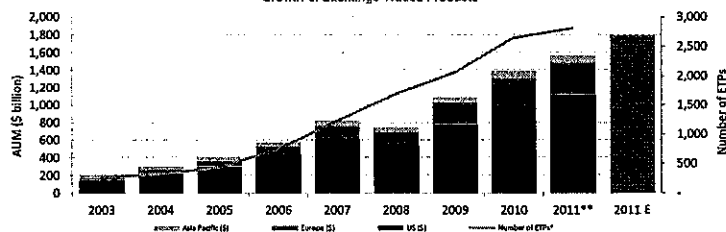
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Increased Retail Participation



Growth of Exchange-Traded Products



Date	31-Dec-03	31-Dec-04	31-Dec-05	31-Dec-06	31-Dec-07	31-Dec-08	31-Dec-09	31-Dec-10
USD/Euro Spot	0.7954	0.7382	0.8450	0.7589	0.6848	0.7166	0.6670	

Updated Table	2003	2004	2005	2006	2007	2008	2009	2010	2011**
AUM									
US (\$)	148.9	225.9	306.0	431.4	625.9	539.2	781.3	997.1	1,120.2
	51%	35%	41%	45%	-14%	45%	28%	12%	
Number of ETPs*	134	168	220	376	647	760	838	869	1,052
Europe (\$)	18.3	24.3	43.3	70.0	82.1	104.4	169.7	230.1	242.9
	49%	78%	62%	32%	73%	63%	36%	6%	
Number of ETPs*	100	115	166	300	476	741	997	1,368	1,418
Europe (\$)	20.5	33.0	61.3	82.3	134.5	153.0	243.2	308.7	360.3
	61%	56%	80%	46%	14%	59%	27%	17%	
Asia Pacific (\$)	34.8	39.9	42.8	52.6	62.7	52.5	65.5	65.8	87.7
	15%	7%	23%	19%	-16%	25%	31%	2%	
Number of ETPs*	35	40	47	64	89	186	229	305	338
US, Europe & Asia Pacific (\$)	205.3	298.8	400.1	576.3	823.1	744.7	1,090.1	1,391.4	1,568.2
	46%	34%	44%	43%	-10%	46%	28%	13%	
Number of ETPs*	269	324	433	740	1,222	1,657	2,062	2,642	2,806

* Number of ETPs at the end of the period net of delistings
 ** As of 30/11/2011

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Financial institutions were hit

U.S. to Take Over AIG in \$85 Billion Bailout; Central Banks Inject Cash as Credit Dries Up
 Emergency move reflects U.S. Government Control of Insurer; Hurricane Move Inland
 City Joins Those That Rejected U.S. Finance

Market Watch

U.S. Stocks: S&P 500 (Dow Jones Industrial Average) 11,234.12 (+10.12)
 Nasdaq Composite 2,876.54 (+15.23)
 Russell 2000 2,456.78 (+8.90)
 U.S. Bonds: 10-Year Treasury Note 7.12% (-0.01)
 3-Month Treasury Bill 3.25% (0.00)
 U.S. Dollar: Euro 1.32 (+0.01)
 Gold: 1,650.00 (+10.00)
 Oil: 95.00 (+0.50)

THE SUNDAY TIMES

Jerome Kerviel named in Cjbn bank trading fraud
 Jerome Kerviel has been named in the Société Générale report on the allegedly lost \$1.2 billion Cjbn bank trading fraud. The bank admitted to the fraud in a report that has been named as 'The Kerviel' in 37-year-old letters to the bank.

Citygroup \$45 Billion Rescue Based on 'Fear of the Unknown,' Barofsky Says
 The U.S. Treasury Department's rescue of Citigroup Inc. from the world's largest bank was a "rescue based on fear of the unknown," according to a former Citigroup executive.

Bloomberg

Citygroup \$45 Billion Rescue Based on 'Fear of the Unknown,' Barofsky Says

The U.S. Treasury Department's rescue of Citigroup Inc. from the world's largest bank was a "rescue based on fear of the unknown," according to a former Citigroup executive.

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And many others, too...

August 07, 2008 - For immediate release.
Morgan Stanley & Company Agrees to Repay Massachusetts Municipalities for Auction Rate Securities Investments
 Morgan will perform full investment review; New Bedford, Hopkinton to receive \$1.5 Million
 BOSTON - Attorney General Martha Coakley's Office has entered into a settlement with Morgan Stanley & Company (Morgan) resolving allegations involving the investment by the firm in auction rate securities investments to municipalities.

Local business mozic.com

Cleveland sues banks over foreclosures
 The city of Cleveland has filed a lawsuit against several banks over alleged improper foreclosure practices.

FT.com Investor's notebook

China talks tough on foreign bank derivatives
 By Sandeep Tector and Robert Coates in Hong Kong
 Published September 14 2009 19:22 | Last updated September 14 2009 19:23

Foreign banks have made relatively few inroads in China since the start of the decade when its country's financial markets were clawed open by global trade agreements.

Overseas banks' market share of loans, retail deposits and trading of domestic securities remains pitifully low, dwarfed by powerful local competitors.

Among the few lucrative calling cards used by western banks in China has been their perceived expertise in structured derivatives, and how these could assist mainland enterprises manage exposure to swings in oil prices, interest rates and currencies.

However, foreign banks now face the prospect of vastly reduced profits from derivative contracts in China after many state-owned enterprises racked up huge losses on the trades, prompting a government body last week to raise its disapproval.

FINalternatives

GLG's Black Monday
 By Matt Johnson in London
 Published September 14 2009 19:22 | Last updated September 14 2009 19:23

The hedge fund's performance has been a disaster. The London-based hedge fund has announced that it is liquidating its fund. The fund's performance has been a disaster since last month, and it is now trading at a loss of 100%.

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Lessons Learned



- Major Investment Banks
- Banks and Other Financial Institutions
- Corporations
- Home Owners and Investors
- Hedge Funds
- Governments and Municipalities



Regulatory Reaction to Crisis



IOSCO Task Force

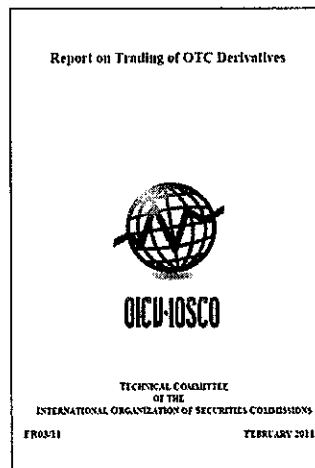


IOSCO Task Force on OTC derivatives regulation (October 2010):

- Seeks to develop consistent international standards;
- Coordinates other international initiatives; and
- Serves as a centralized group within IOSCO through which IOSCO members can consult and coordinate on issues

First 54-page report on Trading of OTC Derivatives issued in February. Further reports due on:

- Data Reporting and Aggregation
- International Standards



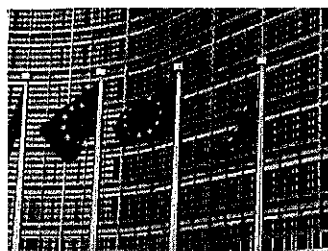
EU Regulation of Derivatives



A 15 September 2010 European Commission proposal is designed to facilitate:

- Greater transparency;
- Greater safety: reducing counterparty risks; and
- Greater safety: reducing operational risk

Parties attempting to reach agreement before the end of Hungary's EU Presidency



Proposed adjustments to the Capital Requirements Directive (CRD) also will affect derivatives

US Regulation of Derivatives

Dodd-Frank Wall Street Reform & Consumer Protection Act of 2010

- Known as the "Dodd-Frank Act"
- Signed into law on 21 July 2010
- Title VII (Wall Street Transparency and Accountability Act of 2010) provides for the comprehensive regulation of:
 - Swaps (regulated by the CFTC)
 - Security-based swaps (regulated by the SEC)
 - "Mixed swaps" (joint regulation by the CFTC/SEC)



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The Dodd-Frank Act – Implementation



- With certain explicit exceptions, the CFTC and the SEC must individually publish required rules within 360 days of enactment (by 15 July 2011)
- Following passage of the Dodd-Frank Act, US financial regulators have entered into an intense period of rulemaking
- The Act requires approximately 243 rulemakings and 67 studies
- The CFTC, the SEC and other agencies have already adopted several interim final rules and issued proposed rules in a number of areas

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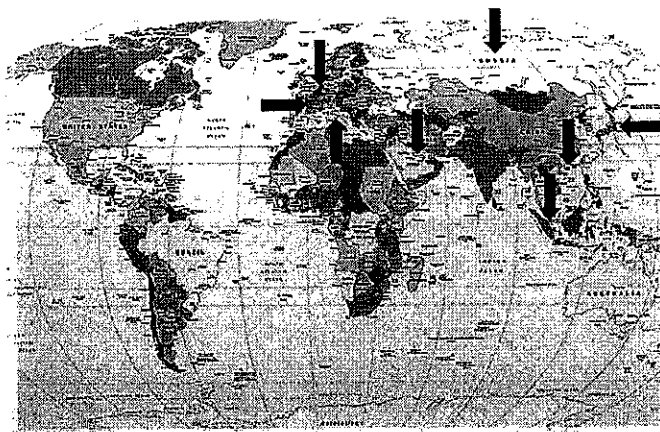
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National Responses



- MENA
- France
- Italy
- Netherlands
- Russia
- Hong Kong/Singapore
- Japan



Diverging rules?

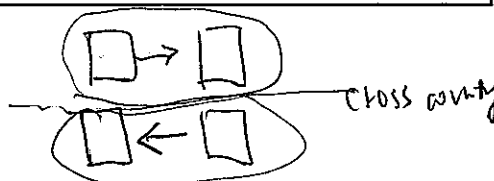


Concerns about the new EU/US rules focus on:

- Differences on the posting of collateral
- Differences around how to define the platforms on which derivatives can be traded
- Concerns that US business will shift to Europe, or...
- Fears that much OTC business will simply move elsewhere, such as to Singapore



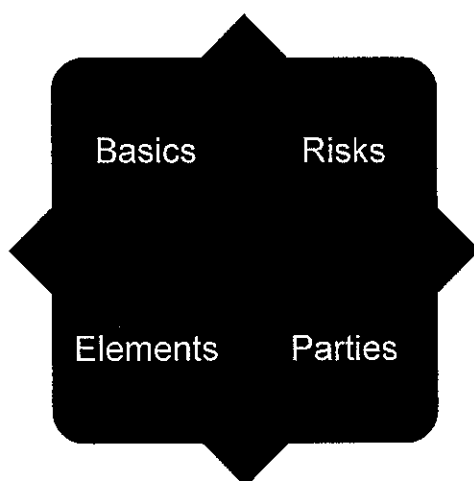
How does the money flow?
Where does the money flow?



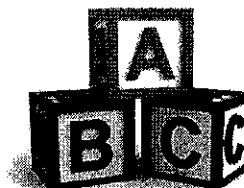
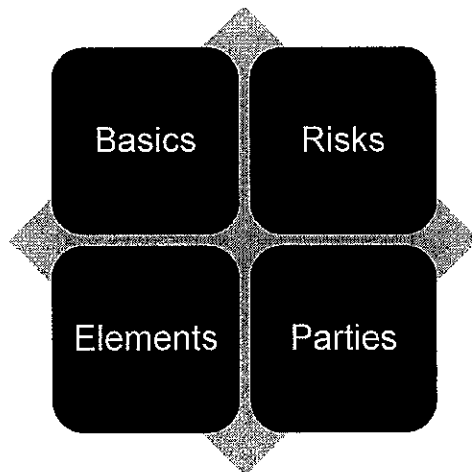


Key Issues When Analysing Derivatives Transactions

Analysing Derivative Transactions 1



Analysing Basics

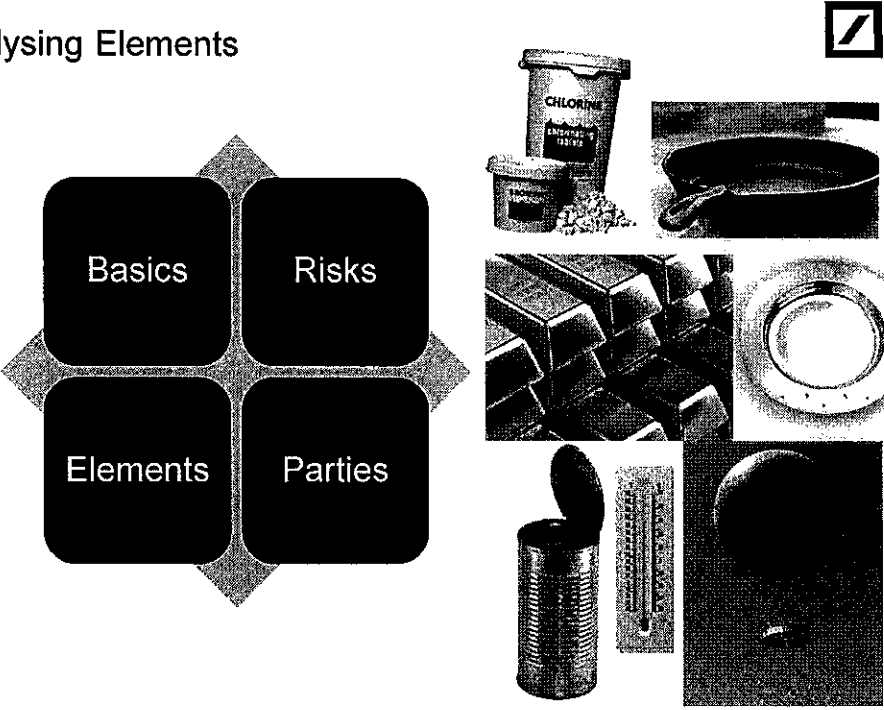


Basics



1. Diagram the cash flows of the trade.
2. Is there an economic purpose to the trade?
3. If there is an option, does it have "optionality"?
4. Are all economics of the trade "on market?"
5. Do the maturities of the various instruments in the transactions match?
6. Is the legal documentation standardized?

Analysing Elements



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Elements of the Transaction 1

Term Sheet

7. Does the Term Sheet match the description of the trade?
8. Does the Term Sheet and all other relevant deal documentation contain the required content, risk descriptions, and disclosures?
9. Does the Term Sheet refer to any other documents, side letters, etc.?

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Elements of the Transaction 2



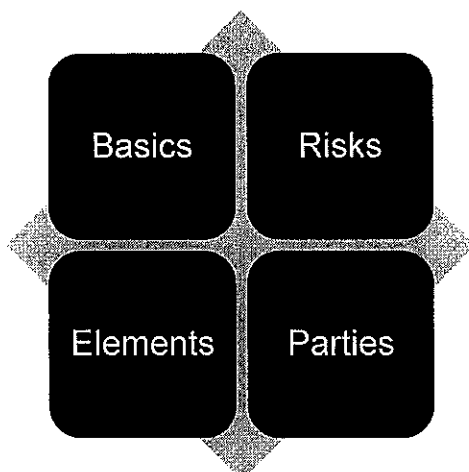
Type of Transaction

- 10. Is this a restructuring of an existing transaction?
- 11. Is the transaction a historic cost or rate rollover transaction?
- 12. Is the instrument capable of being on-sold? Can the transaction be broken down into smaller sizes?

Jurisdiction

- 13. Does the offer comply with the public offer rules of the jurisdiction?
- 14. Are there any restrictions around the particular instrument being sold into the intended jurisdiction?

Analysing Risks

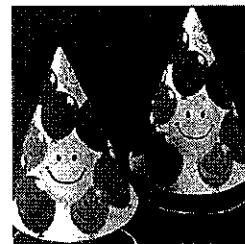
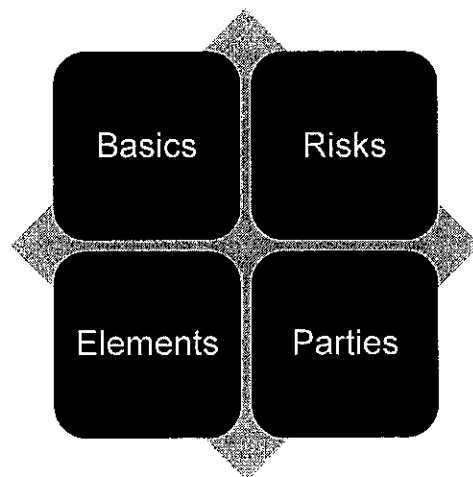


Risks



- 15. Are there any tax risks in the transaction, tax charges, or tax advantages?
- 16. Are there any accounting risks or accounting advantages associated with the transaction?
- 17. Does the transaction involve any other reputational risk exposure for the Bank?

Analysing Parties



Parties to the Transaction 1



Bank-Specific Issues

18. What is the Bank's P&L in the trade?
19. Are there any unusual benefits to the Bank?
20. Has the Bank done a similar transaction before?
21. Does the transaction call for any continuing activities on behalf of the Bank, such as providing liquidity, providing published quotes, etc.?
22. Does the transaction call for the Bank to actively manage any related instruments?

Parties to the Transaction 2



Client-Specific Issues

23. Is the client-type one that may need extra protection/diligence?
 - Municipality, small corporate, charitable organization, non-profit, etc.
 - See "Enhanced Suitability/Appropriateness Controls"
24. Does the Client understand the transaction?
25. Does the Client have capacity to enter the transaction?
26. What is the Client's motivation for entering into the transaction?
27. Is the transaction consistent with the Client's investment objectives?
28. Is the transaction compatible with the size, condition, and nature of the Client's business?

Parties to the Transaction 3



Client-Specific Issues(cont.)

- 29. Does it make sense for this Client to enter into this transaction?
- 30. Has the Client done a similar transaction before?
- 31. Is the Client making an independent investment decision or are they being advised by properly qualified advisors?
- 32. Is the Client going to have external counsel to review the transaction documentation?
- 33. Is the return commensurate with all the risk the Client is taking?



Derivatives Case Study

Case Study



Legal Description

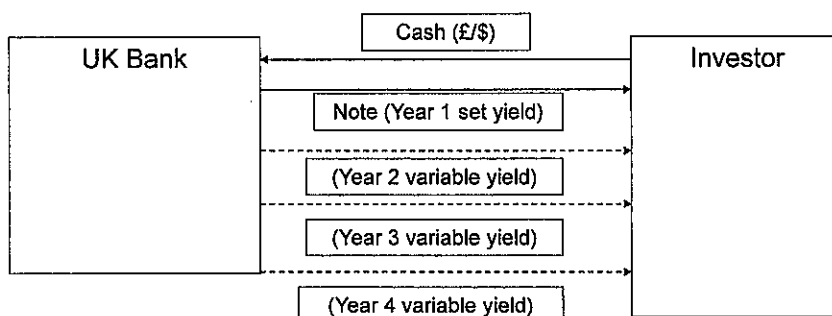
- The securities are generally principal protected interest bearing securities which pay a coupon linked to an index. The securities are obligations of the issuer and are not secured by any collateral.
- The redemption notes ("Notes") will pay a coupon until the cumulative interest earned equals "X%" (the TARGET set on the deal). In Year One the Notes will pay a coupon at a rate of "Y%", or periodic. From Year Two until maturity, the Notes will pay a coupon based on the following formula:

W% minus (2 times 6 month LIBOR) with a minimum coupon of 0% in any period. When the Cumulative Interest has reached X% the principal investment will be returned and the Security will be redeemed.

Plain English



- For example, investors requiring a 10% return would receive a 5% coupon in year one and then variable semi-annual coupons.
- Continue to receive semi-annual coupons until they have generated the 10% return.
- Upon reaching the 10% return the note is redeemed and the principal returned. This is known as a "knock-out" feature since once it is reached the note is redeemed regardless of its original projected maturity.



Benefits

For Banks

- High margin
- The accrual rate will be contingent on maturity which could be early depending upon knock-out mechanism

For Clients

- High yield in the initial period
- Generates returns in low interest rate environment, offers yield enhancement
- Guaranteed stated return with 100% principal protection (although some structures could be transacted with principal at risk)

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Risks

For Banks

- Misselling claims
- Legal risk
- Regulatory risk
- Reputational risk

For Clients

- Credit risk of issuer
- Potential for zero coupon
- Early redemption
- Liquidity risk

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Avoiding Problems with Derivatives

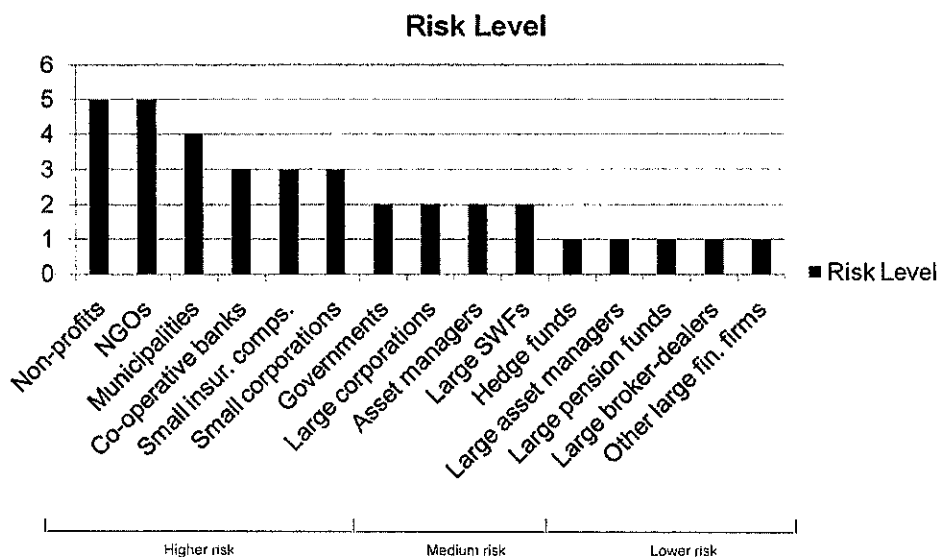
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Risk Analysis: Client Type



NOTE – Chart does not cover direct retail customers or retail product manufacturing, which pose even higher overall risks.

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Risk Analysis: Product Complexity



Determine the Level under which the Product to be offered falls.
Commence with Level 1 and work down to Level 4 to determine best fit.

Higher Risk Medium Risk Lower Risk

Level 1	Plain vanilla products; Exchange traded Instruments (e.g., futures, DB instruments); G10 Securities, Credit Rating AA (Issuer and underlying)
Level 2	Unleveraged structures. Capped non-vanilla products. Widely tracked index linked products or delta 1. Credit rating BBB (Issuer and underlying)
Level 3	Capped Leverage structures. Uncapped non-vanilla products. Limited secondary market, High Volatility, Limited Price Transparency. Credit rating BBB or sub par investment grade (Issuer and underlying)
Level 4	Uncapped, Leveraged products, Limited secondary market, High Volatility, Limited or No Price Transparency, Credit rating BBB or sub par Investment grade (Issuer and underlying)

Model Client Suitability Matrix



Institutional Clients	Client Type		Product Complexity				Legend
	Corporate Clients	Other Clients	Level 1	Level 2	Level 3	Level 4	
Large Broker dealers or Security Brokers Hedge Funds Large Pension funds							Medium Risk ENHANCED DUE DILIGENCE AND APPROVAL
Large Asset Managers G-10 Central banks G-10 Sovereigns Large Financial Institutions Insurance Companies (Asset size > Euro 1B)	Grade A Corporates						
Regional Broker dealer, banks, FIS Pension funds Asset managers Other Central Banks, Sovereigns (Euro 500MM < Asset size < Euro 1B)	Grade B Corporates						
Local FIS 100m to 500m Euro Small asset managers 100 to 500m	Grade C Corporates						
Co-operative banks Small Insurance Companies Small Financial Institutions	Grade D	Municipalities					
	Grade E	Not For Profit Organizations Trade Unions Religious Organizations Charitable Organizations Non Government Organizations (NGOs) Private Schools, Universities or other educational establishments Hospitals or Family Offices or UHNW's					

Implementation



Pre-Trade

- Confirmation of capacity
- Reps and warranties letter
- Marketing material/scenario analysis
 - Scenario analysis

Post-Trade

- Valuations to clients
- Monitoring of Mark-to-Market
- Senior management reports

Thank you!



Andrew Robertson
Director
Head of CIB Compliance
Deutsche Bank, Singapore
+65 98211822
andrew.robertson@db.com



Appendix



Swaps

- Swaps: An agreement between two parties to pay each other a series of cash flows based on an underlying
- Most common swaps are based on currency and interest rates
- Essence is an exchange of risk between two parties

Forwards and Futures



- A forward is an obligation to buy/sell a particular underlying at set price on a given date
 - OTC-traded; customized; not margined
- A future is an agreement to buy/sell a specified asset of standardized quantity and quality at a specified future date at a price agreed today (the futures price).
 - Exchange-traded; defined on standardized assets; margined

Options



An option is a right but not an obligation to enter into a transaction

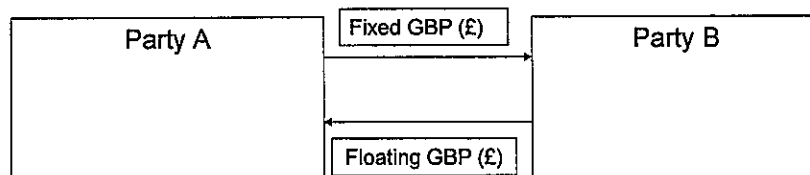
- Two main types:
 - Call options where the option grants the purchaser the ability to buy the underlying from the seller at the strike price
 - Put options where the option grants the seller the right to sell the underlying to the buyer at the strike price
- Two main option styles:
 - European options which can only be exercised on a particular date
 - American option which can be exercised at any time in a given period
- Other common types include Asian and Bermudan options

Structured Products

- A structured product is generally a pre-packaged investment strategy based on derivatives, such as a single security, a basket of securities, options, indices, commodities, debt issuances and/or foreign currencies, and to a lesser extent, swaps.
- The variety of products just described is demonstrative of the fact that there is no single, uniform definition of a structured product.
- Structured products were created to meet specific needs that cannot be met from the standardized financial instruments available in the markets.
- Structured products can be used as an alternative to a direct investment, as part of the asset allocation process to reduce risk exposure of a portfolio, or to utilize the current market trend.

Source: Wikipedia

Interest Rate Swap



Risks:

- Market risk of interest rate fluctuations
- Credit risk of counterparty
- Liquidity risk
- Systemic risk
- Tax risk

Foreign Currency (FX) Swap

```

    graph LR
      A[Party A] -- "USD ($)" --> B[Party B]
      B -- "GBP (£)" --> A
  
```

Risks:

- Market risk of currency movement
- Political risk to underlying states
- Credit risk of swap counterparty
- Liquidity risk.
- Systemic risk
- Tax risk

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Credit Default Swap (CDS)

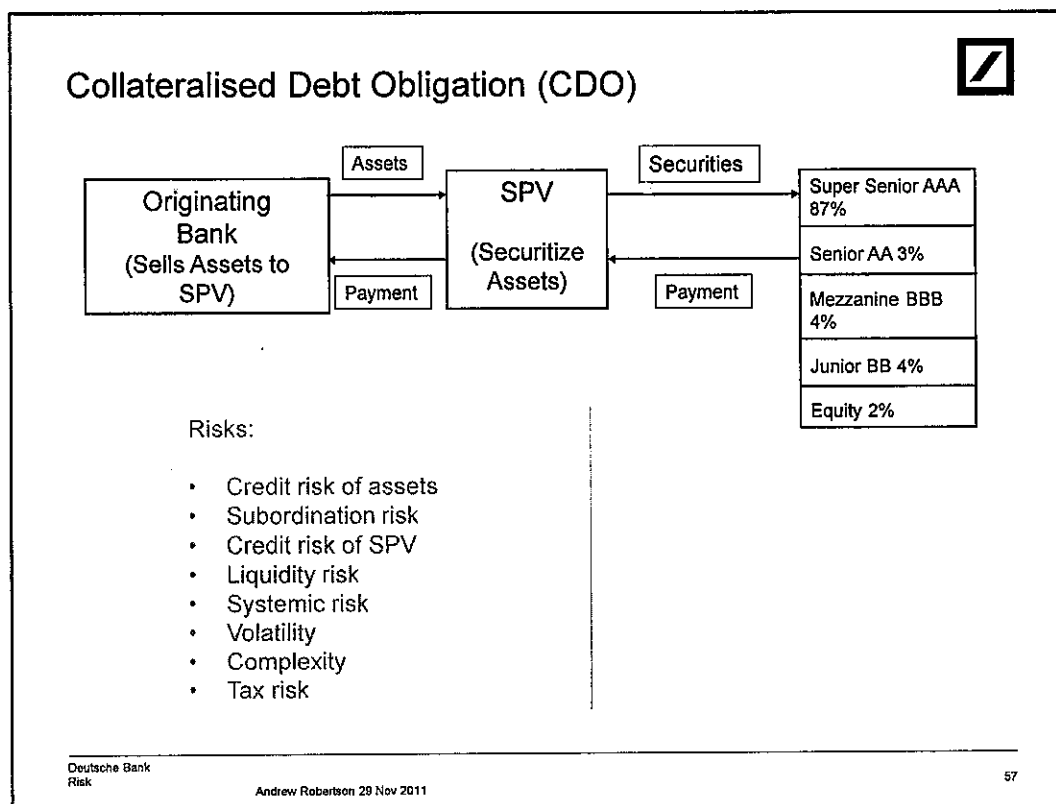
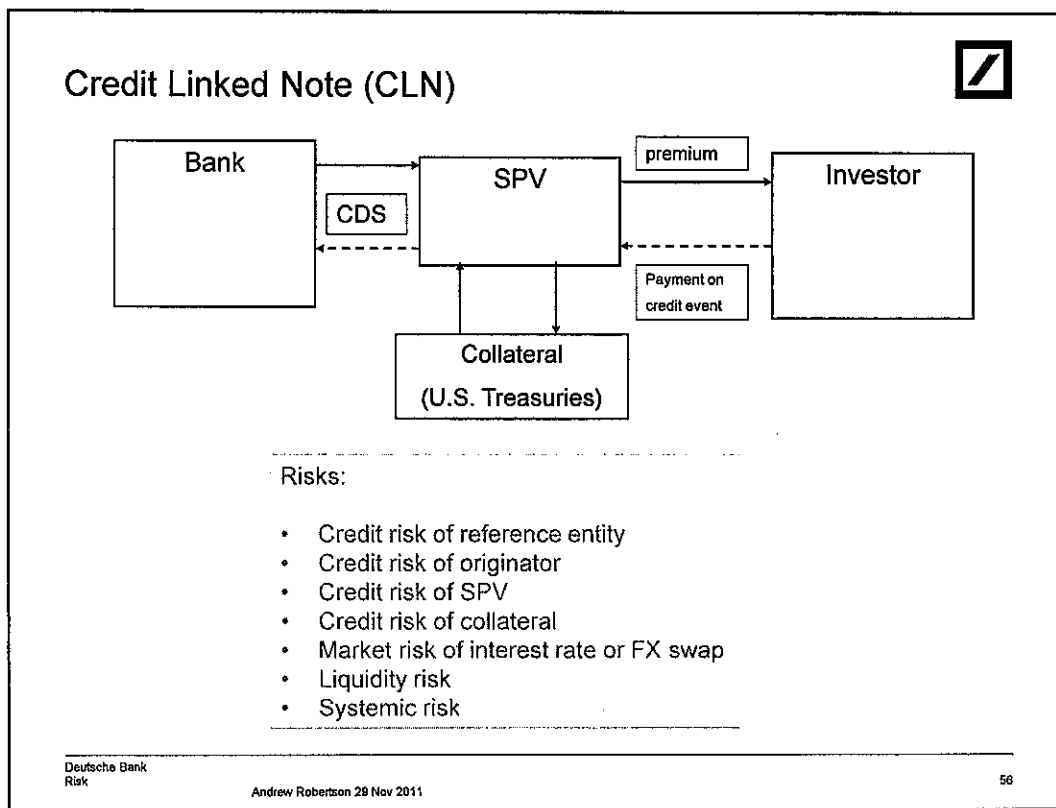
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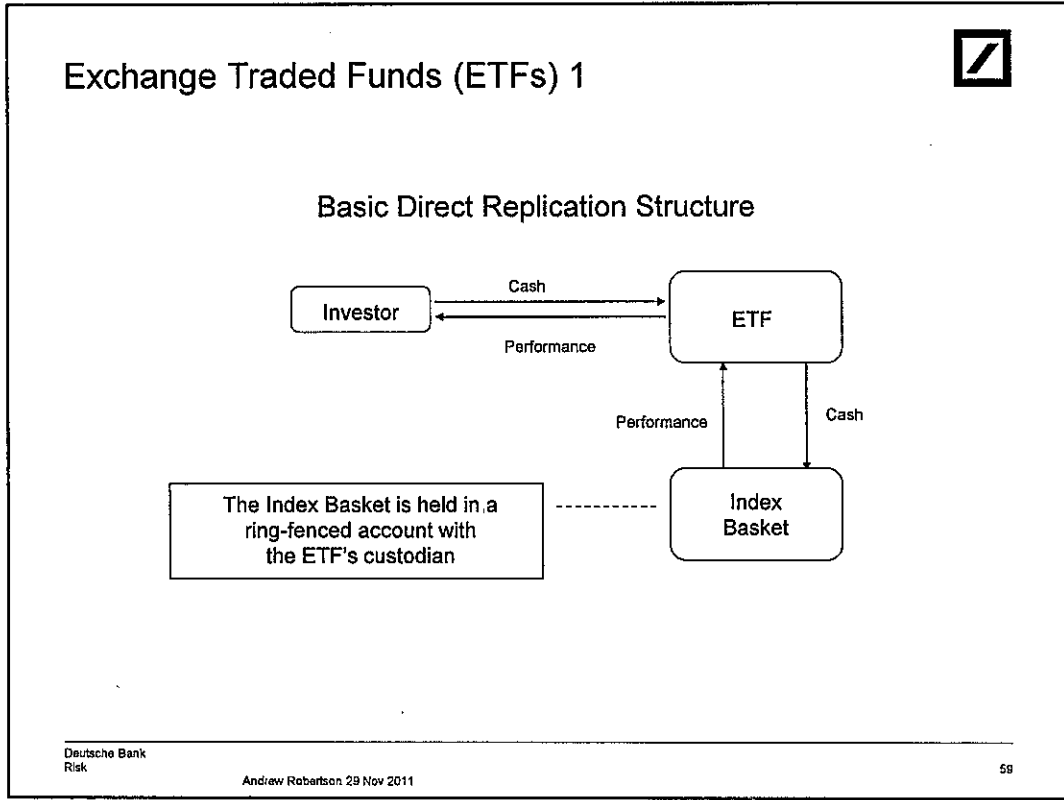
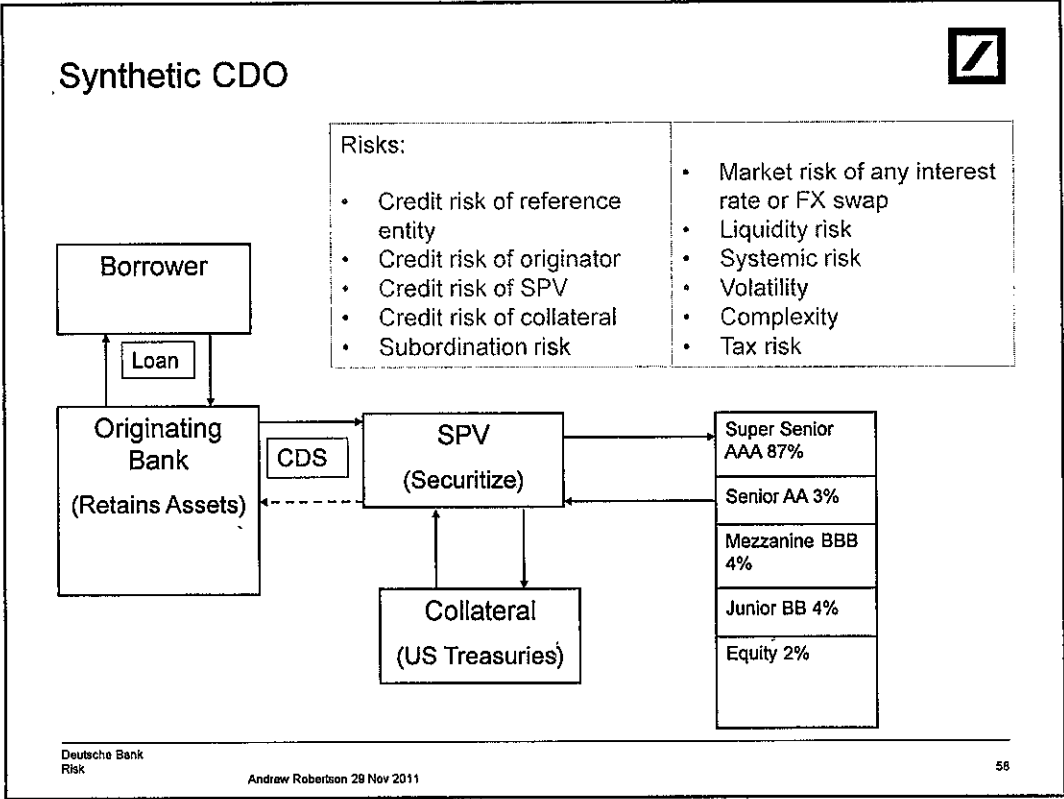
    graph TD
      L[Lender (Protection Buyer)] -- "Loan" --> B[Borrower]
      L -- "Premiums" --> PS[Protection Seller]
      PS -.->| "Payment on Credit Event" | L
  
```

Risks:

- Credit risk of reference entity (cheapest asset)
- Credit risk of swap counterparty; key is that the risk is broader than just bankruptcy risk
- Market risk of interest rate or FX swap
- Liquidity risk
- Systemic risk
- Tax risk
- Classification or regulatory risk

Deutsche Bank Risk 55
Andrew Robertson 29 Nov 2011





Exchange Traded Funds (ETFs) 2



Indirect/Synthetic Replication – Unfunded Swap Structure

