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## The Effect of Regulatory Changes on the Banking Sector

Prof. Dr. Lutz Johanning

Structured Products Europe 2010

Zurich, November 29th

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## Financial advice is on the....

### 1. determination of the investors' preferences e.g.

1. Risk attitude, → What is risk?
2. Liquidity preference,
3. Return requirements, ....

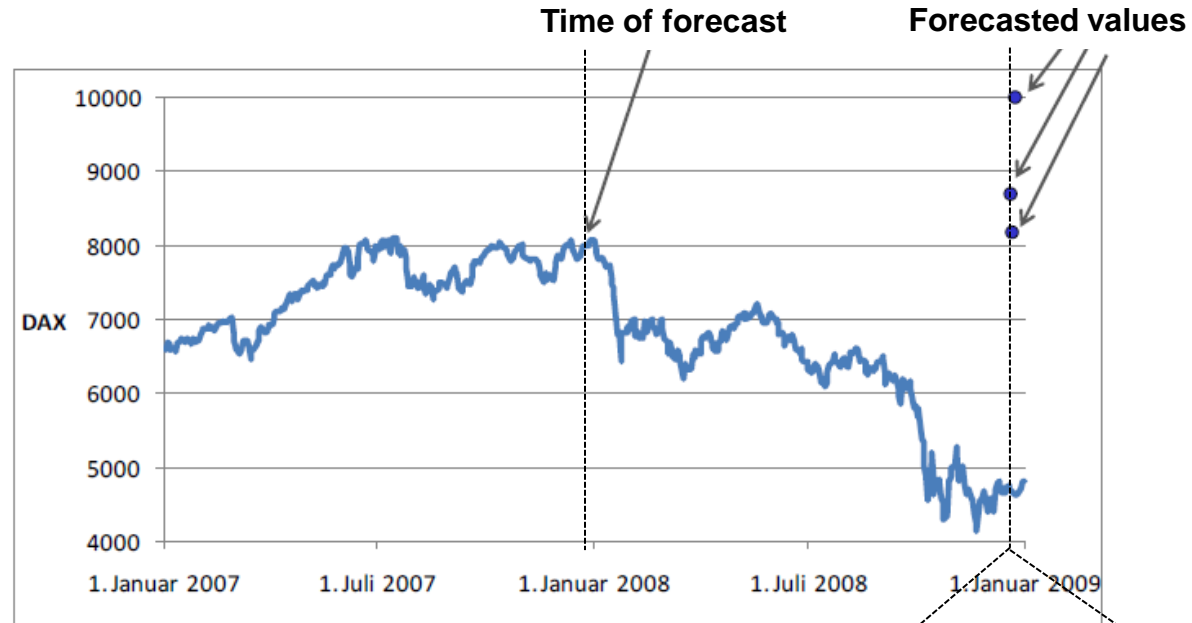
### 2. determination of the products' attributes e.g.

1. Risk,
2. Liquidity,
3. Return characteristics....

→ **but: it is (almost) impossible to forecast the future!**

## Forecast of returns

source: Weber 2009, p. 6



**Hindsight bias:** “the tendency to believe that our forecasts were more accurate than they were.” Goodwin (2010), p. 5

→ **Example:** Lehman default



## Regulators need to ....

1. ...protect investors and improve transparency,
2. ...consider that it is almost impossible to forecast product attributes,
3. ...be careful not to over-regulate the market because of the hindsight bias

## Questions:

1. What is the effect of the Basle III regulation on the structured product markets?
2. What is the effect of the PRIBs regulation on the structured product markets?
3. Additional steps?

<b>1</b>	Introduction
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<b>4</b>	Rating of structured products
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## Three pillars of Basle II

### Minimum Capital Requirements

**Pillar 1**” of the new capital framework revises the 1988 Accord’s guidelines by aligning the **minimum capital requirements** more closely to each bank’s actual risk of economic loss.

### Supervisory Review Process

**Pillar 2**” Supervisors will evaluate the activities and risk profiles of individual banks to determine whether those organizations should hold higher levels of capital than the minimum requirements in Pillar 1 would specify and to see whether there is any need for remedial actions.

### Market Discipline

**Pillar 3**” leverages the ability of **market discipline** to motivate prudent management by enhancing the degree of transparency in banks’ public reporting to shareholders and customers.

1. Higher quality of capital (greater focus on common equity)
  2. **Minimum requirements for common equity from the current 2% level to 4.5%**
  3. **Higher capital requirements for the trading book**
  4. A non-risk-based leverage ratio
  5. Improvement of pillar 2 and pillar 3
  6. **Global liquidity ratios (liquidity coverage ratio, net stable funding ratio)**
  7. Capital conservation buffer comprising common equity of 2.5%, countercyclical buffer within a range of 0 to 2.5% comprised of common equity or other fully loss absorbing capital
- **Higher cost of capital especially for the trading book**
- **War of deposits**

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## **Consultation by Commission Services on legislative steps for the PRIBs initiative**

1. Pre-contractual disclosure
2. Rules on sales: avoidance and management of conflict of interests, assessment of suitability and appropriateness

### **KIID, 2 page document, must ....**

- be 'fair, clear and not misleading'
- represent the broad 'risk / reward' proposition
- show the costs of the product
- show the performance of the product (where it has a track record) or information about possible performance scenarios (where relevant)
- ...

# Risk classes in KIID

	<b>CESR/09-949</b> <b>(Level 2 technical advice)</b>
<b>Risk figure in KIID /SRRI*</b>	<ul style="list-style-type: none"> <li>Volatility / VaR is only applied for UCITS with non-normally distributed returns</li> <li>SRRI is enhanced with a narrative part, trying to explain associated risks</li> </ul>
<b>Calculation methodology (simplified)</b>	<p>UCITS with normally distributed returns:</p> <ul style="list-style-type: none"> <li>Risk figure: (annualised) volatility                             <ul style="list-style-type: none"> <li>Volatility calculation based on 5 year return history of weekly or monthly data</li> </ul> </li> </ul> <p>UCITS with non-normally distributed returns:</p> <ul style="list-style-type: none"> <li>Risk figure: (annualised) volatility calculated by using VaR (at maturity)                             <ul style="list-style-type: none"> <li>Return history of 5 years</li> <li>Historical simulation of returns</li> <li>99 % confidence interval</li> <li>Employed holding period: to maturity</li> </ul> </li> </ul>
<b>Display of results</b>	<ul style="list-style-type: none"> <li>7 risk class based on volatility intervals (see table)</li> </ul>

\*SRRI = synthetic risk and reward indicator – risk classes in KIID

<b>Risk Class</b>	<b>Volatility Intervals</b>	
	<b>equal or above</b>	<b>less than</b>
1	0%	0.5%
2	0.5%	2%
3	2%	5%
4	5%	10%
5	10%	15%
6	15%	25%
7	25%	

Annex to CESR’s technical advice on the level 2 measures related to the format and content of Key Information Document disclosures for UCITS (Ref. CESR/09-949): methodology for the calculation of the synthetic risk and reward indicator p.5






## Illustration of risk classes in KIID

Graphic or visual explanations Example of a fund that would fall into category 2:	⇐ Typically lower rewards ⇐ Lower risk							Typically higher rewards ⇐ Higher risk ⇐	
	Risk and reward scale chart	1	2	3	4	5	6	7	

Ref: CESR/09-1026 p.3

# Transformation of VaR into risk classes according to DDV

- Since 2005 DDV measures the risk of structured products applying the value at risk methodology\*
- **Currently more than 360,000 products are evaluated weekly**

Risk Class	Borders in EUR	Benchmarks	Investor Type	"Riskmeter"
1	$0 < \text{VaR} \leq 250$	Bond Indices (1 - 5 years)	conservative	
2	$250 < \text{VaR} \leq 750$	Gold Spot, i.Boxx Europe, EMU Bond Index	moderately conservative	
3	$750 < \text{VaR} \leq 1.250$	ATX, DAX, EURO STOXX 50, Dow Jones, S&P 500	moderate	
4	$1.250 < \text{VaR} \leq 1.750$	Index-members (average)	moderately aggressive	
5	$1.750 < \text{VaR} \leq 10.000$	Volatile small-cap stocks (e.g. solar stocks)	aggressive	

- Determination of risk class-borders according to VaR for benchmark investments
- 5-year estimation period: observation of different market cycles targeting long-term stability of risk class-borders

\*For detailed methodology see appendix

# SVSP risk classes based on VaR

- Since 2009 risk classes based on VaR are disclosed by SVSP

Risk Class	Risk Perception	Comparable to
1	low	Money Market, Deposits
2	moderate	Bonds
3	medium	Mixed Portfolio Bonds / Shares
4	increased	Blue Chips
5	high	Small / Mid Caps, Emerging Markets
6	very high	Options, Futures

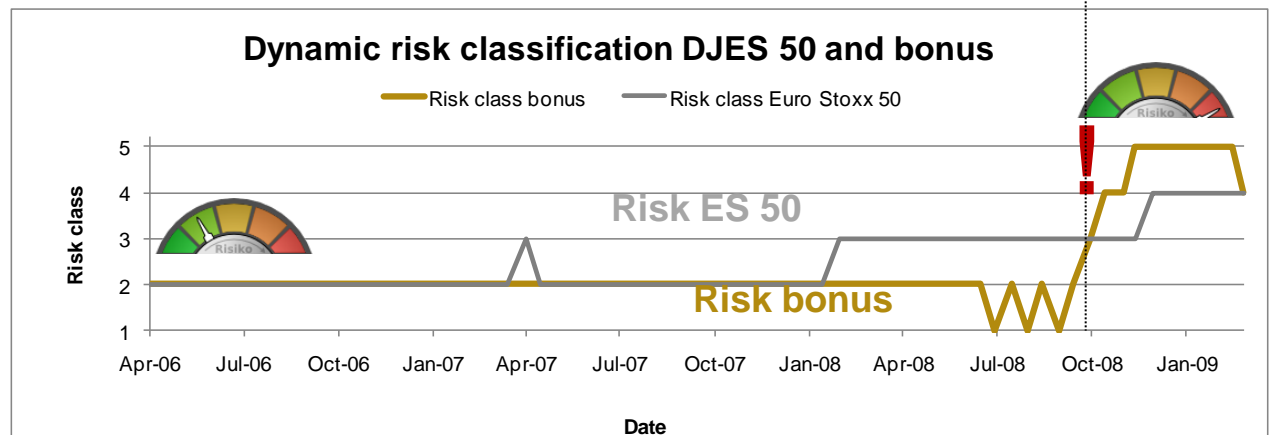
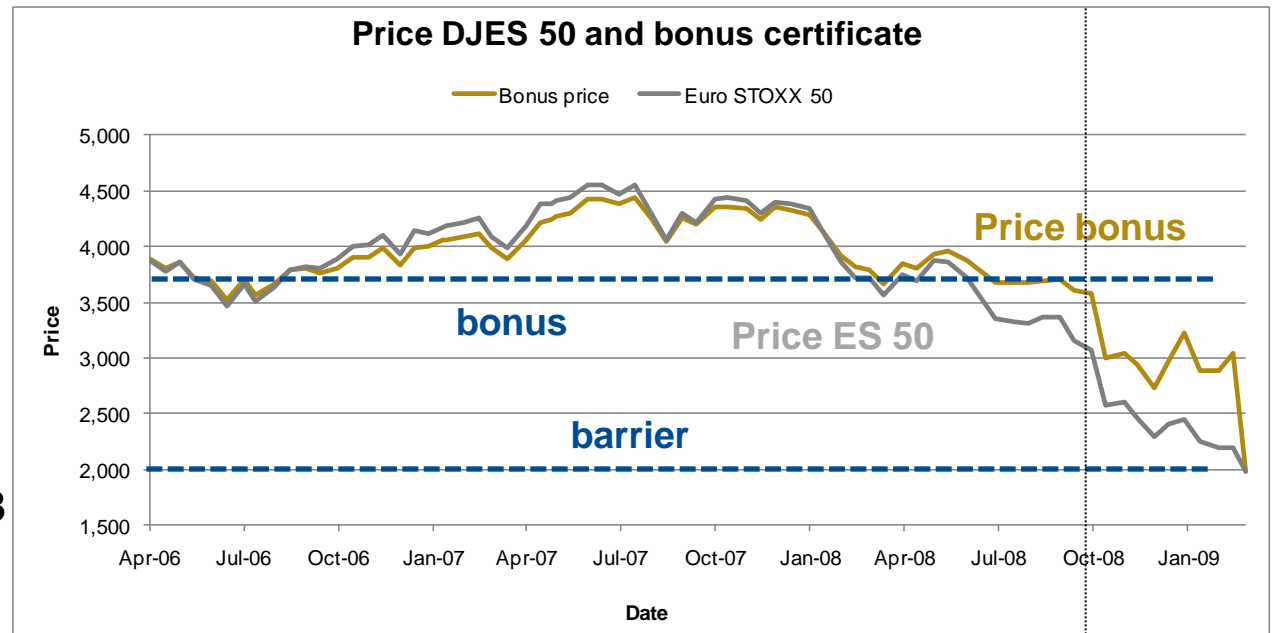
→ Risk classes are determined relative to benchmark assets

# Dynamic risk classification of a structured product according to DDV

## Example:

Bonus certificate on ESTOXX 50, barrier 2000, bonus 3750, maturity 03/20/2009

- Bonus is initially less risky than underlying (5 VaR risk classes (RC))
- **Increase of risk in October 2008 from RC 2 to RC 5**
- Barrier level touched on 02/20/09 → Certificate falls from RC 5 to 4
- As well: underlying risk rises
  - RC2 in 06/2007
  - RC3 in 02/2008
  - RC4 in 12/2008



# Exemplary risk class results – KIID vs. DDV

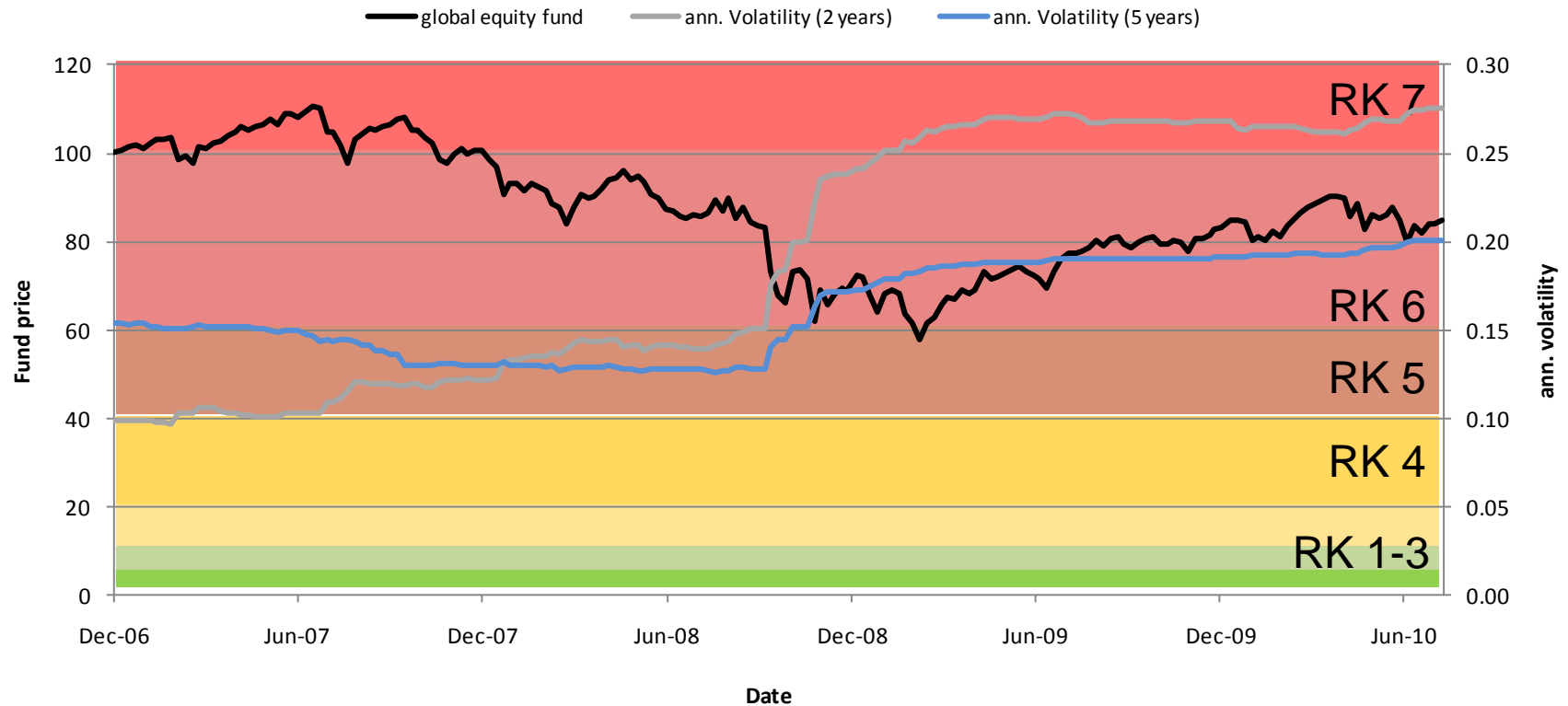
Security	DDV risk class	KIID risk class
Corporate Bond DBK	2	4
Corporate Bond DBK	1	3
Corporate Bond VW	2	5
Corporate Bond DAI	1	3
DWS Vermögensbildungsfonds I	3	6
DekaFonds	4	7
UniGlobal	3	6
Fidelity European Growth A	3	7
Templeton Growth Fund	4	7
BGF Latin America	5	7
iShares DJ EURO STOXX 50 (DE)	4	7
db x-trackers DAX ETF	4	7
ComStage ETF DJ STOXX 600 TR	3	7
Lyxor ETF MSCI Emerging Markets	4	7
DJ STOXX Small 200 Source ETF	3	7
db x-trackers DJ STOXX 600 B. Resources ETF	5	7
(Deep) Discount EURO STOXX 50 (cap 1700)	1	---
Bonus-Capped EURO STOXX 50 (barrier 1750, cap 3250)	3	---
Bonus EURO STOXX 50 (barrier 2100, bonus 3600)	4	---

Date: March 2010

- Most of the displayed equity funds fall into classes 6 or 7 regarding KIID risk classes. Are investments in those funds suitable for retail clients?

# KIID risk classes – exemplary result for an equity fund

## Influence of data history on annualised volatility results



- Annualised volatility based on a 5-year data history lags behind capital market losses
- Lagged reaction induces a higher stability in risk classes

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# EDG Rating of structured products

**EDG Rating consists of a risk-fit and a quality assessment**

**Risk-fit / product suitability (50 points)**

Underlying risks  
(price, volatility)

Maturity

Interest rates

Dividends etc.

**Product quality (50 points)**

Costs

Trading

Creditworthiness

Information  
availability

**Transparent and quantitative valuation model**

**Product risk**

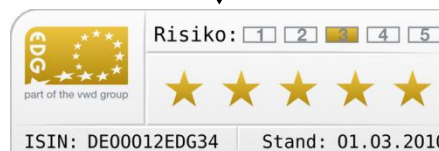
1 2 3 4 5

50 points

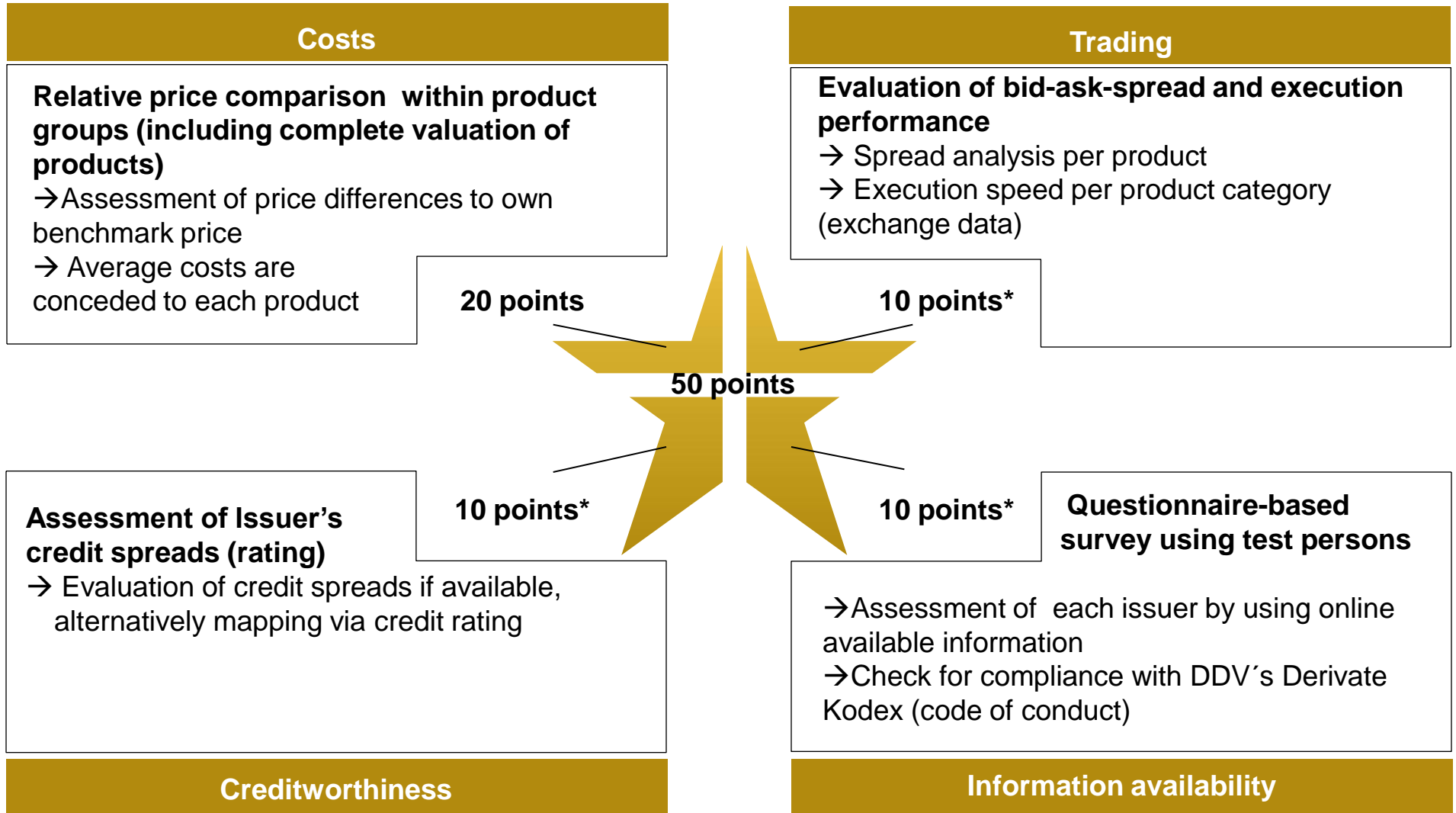
**Product quality**

★ ★ ★ ★ ★

50 points



# Product quality assessment



\* Different weighting for leverage products

# Exemplary calculation of cost component

## Illustration of cost scores based on four Discount-Certificates

Product	Maturity	Cap	Price (mid-quote)	Rank by price	Valuation of products	Benchmark price	Difference to benchmark price in %	Rank by Costs
Discount 1	2010-12-09	50	45.09	3		45.89	-1.80%	1
Discount 2	2010-03-18	50	44.34	1		44.11	0.50%	3
Discount 3	2010-12-09	50	45.15	4		45.89	-1.60%	2
Discount 4	2011-03-17	50	44.41	2		44.13	0.60%	4

### Comparison of four similar Discount Certificates (in terms of underlying, maturity and cap):

- Considering product price is Discount 2 the best product whereas Discount 3 is the most expensive product
- Complete valuation of all products by EDG yields to a fair benchmark price
- Highest negative deviation from benchmark price measured for Discount 1  
→ „best“ product on the market
- A cost evaluation, which is free of product structure or underlying effects, is only possible through a complete valuation and fair benchmarking of all products

# Independent advisory board

## Functions of the board:

- Support EDG with respect to (academic) know how and practical implementation
- Final decision concerning changes of the (structured product) rating methodology
- Commission members are self-governed

## Members:

- Prof. Dr. Ralf Elsas, Ludwig Maximilians University Munich
- Sven Gundermann, Managing Partner, Raif & Gundermann Vermögensverwaltung GmbH, Bad Homburg
- Prof. Dr. Andreas Hackethal, Goethe Business School and Johann Wolfgang Goethe University Frankfurt
- Adolf Ropeter, CEO, Independent Derivatives Consulting AG, Bad Homburg
- Walter Gunkel, Partner, Frischmann Finanz- und Partner GmbH, Innsbruck
- **Prof. Dr. Bernd Rudolph (Chairman), Ludwig Maximilians University Munich**

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# Summary

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## **Basel III:**

- Higher cost of capital especially for the trading book
- War of deposits

## **PRIBs – KIID:**

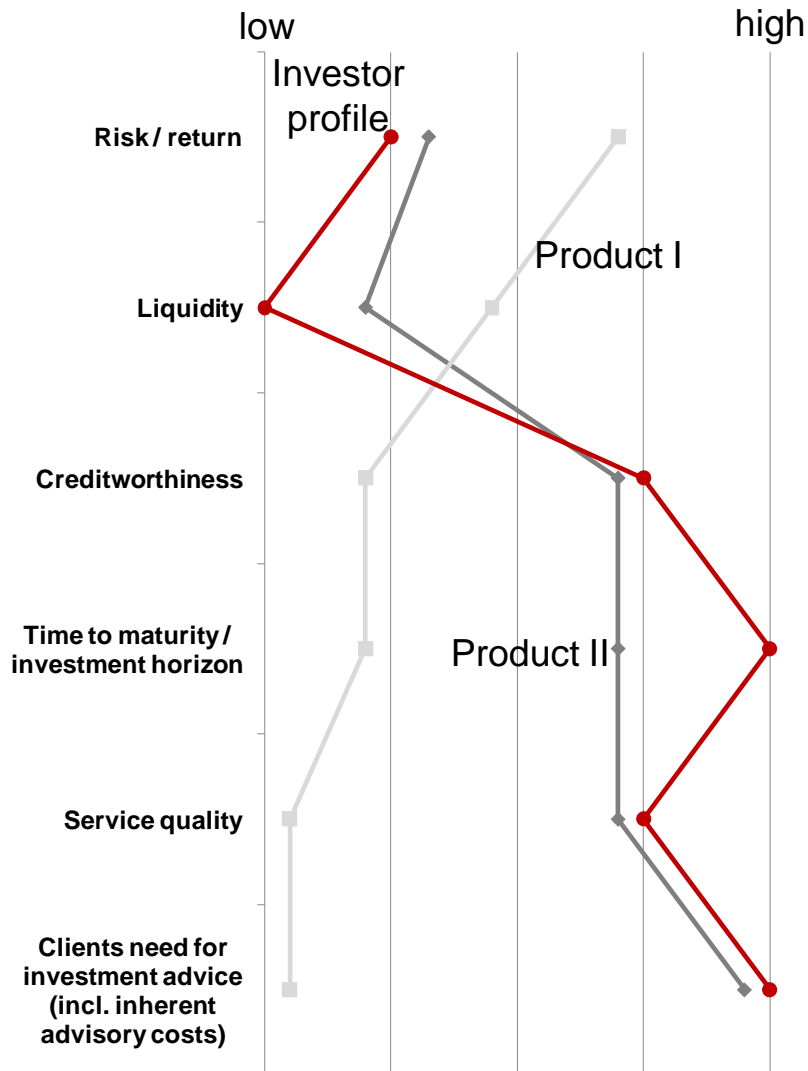
- KIID fosters product comparability (MiFID) and market transparency  
→ investor can evaluate product quality and suitability
- Product risk is measured and classified based on industry standards  
→ Complexity is reduced by translating the results into simple risk classes

→ but: risk forecasts are limited

## **Additional steps:**

- Product quality can be measured relative to its peers with fair cost comparison  
→ Suitability test should not only be based on risk

# Evaluating product suitability



## Product suitability test:

- Mandatory: product suitability has to be tested during the sales process
- Development / second stage: ongoing monitoring of product suitability along investment horizon / product life cycle

### → Suitability test result:

Product II suits the investor's preferences and requirements better than product I

# Contact details

## Address:

EDG AG  
Lechnerstraße 37  
82067 Schäftlarn

Office Frankfurt  
Bettinastr. 57 - 59  
60325 Frankfurt

Phone: +49 (0) 69 / 15 04 47 - 01

Fax: +49 (0) 69 / 15 04 47 - 09



## Contact Persons:

Philipp Henrich  
Mobile: +49 (0) 179 / 69 61 829  
Email: [henrich@derivatives-group.com](mailto:henrich@derivatives-group.com)

Prof. Dr. Lutz Johanning  
Mobile: +49 (0) 171 / 651 6474  
Email: [johanning@derivatives-group.com](mailto:johanning@derivatives-group.com)

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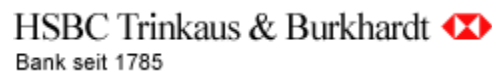
# Distribution

- Rating results are available free of charge for investors
- Distribution: Using well known media partners, instead of creating own distribution channels
  - Preferred solution among issuers

Rating results are published at the following distribution partners:



# Extract of participants in transaction cost analyses, risk classifications and product rating



## „marketMONITOR“ from EDG:

- Simple and intuitive alerting tool based on risk class changes
- Risk- and rating-alerts selectable according to individual preferences
- Scalable across various risk- and star-classes
- Usage is free of charge:
  - Implemented on several websites
  - Implemented on EDG-Sites
- <http://monitor.edg-data.com/query.php>

marketMONITOR

Sie sind angemeldet mit E-Mail-Adresse: [marc\\_becker\\_dus@hotmail.com](mailto:marc_becker_dus@hotmail.com) [Logout]

Neue ISIN in die Watchlist aufnehmen:

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**Aktiv** **ISIN** **Risiko** **Rating** **Hinzugefügt** **Aktionen**

ISIN DE000WGZ4Y91

**Risiko**

1 2 3 4 5

Die aktuelle Risikoklasse ist 2. Fällt diese unter 2 oder steigt diese über 2, erhalten Sie eine Mitteilung.

**Rating**

★★★★★

Das aktuelle Rating ist 4. Fällt dieses unter 4, erhalten Sie eine Mitteilung.

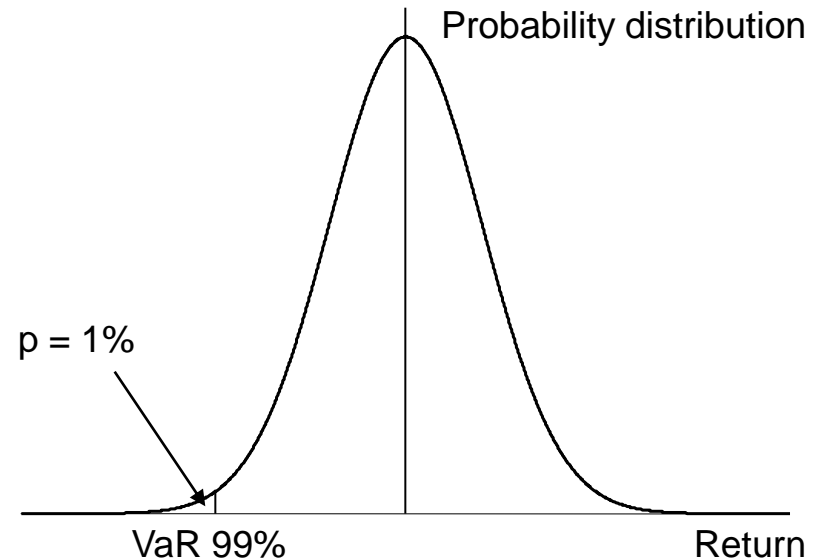
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<input type="checkbox"/>	DE0001742211	1 2 3 4 5	★★★★★	12.10.2009	
<input type="checkbox"/>	DE0001022580	1 2 3 4 5	★★★★★	12.10.2009	

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# The concept of value at risk

- VaR describes a risk of loss in Euro (or in %)
- This loss is only exceeded with a small probability ( $p$ )
- The major three determining factors are:
  - Holding period (10 days)
  - Confidence level (99%)
  - Investment (€ 10,000)
- VaR is not a maximum loss!
- VaR indicates a certain point on the probability distribution of possible returns
- VaR can be applied to single- or multi-asset portfolios



- EDG calculates prices of retail structured products and complex securities for institutional investors (e.g. independent validation of counterparty quotes)
- Product universe includes among others:
  - **All kind of retail structured products (more than 360,000 retail structured products)**
  - All kind of OTC-options and swaps, ABS, CDOs (see appendix for more details)
- EDG benchmark prices are based on:
  1. average market volatilities, interest rates and dividends derived from publicly available market information (determined by EDG)
  2. adequate pricing models and methodologies that are implemented in the EDG pricing engine (white box: all information available and adjustable)

→ All prices can be considered as independently determined benchmarks, but cannot considered to be 'real' prices, as they are based on input data and model assumptions (see next page for a real life example)

# Product coverage (excerpt)

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- Non-Callable Bonds (fixed rate)
- Floating Rate Notes
- Callable / Putable Bonds
- Convertibles / Exchangeables
- Schuldscheine
- Interest Rate & Currency Swaps
- Caps/Floors & Swaptions
- ABS, MBS, CDOs, CLO
- Credit Default Swaps
- Equity & Asset Swaps
- Total Return Swaps
- Asian Options
- Chooser Options
- Range Accrual Options
- Lookback Options
- Spread Options
- Barrier (Single & Double) Options
- Digital Options
- Basket, Rainbow, Cliquet Options
- Mountain Range: Altiplano, Himalaya
- Further exotic options
- All types of certificates