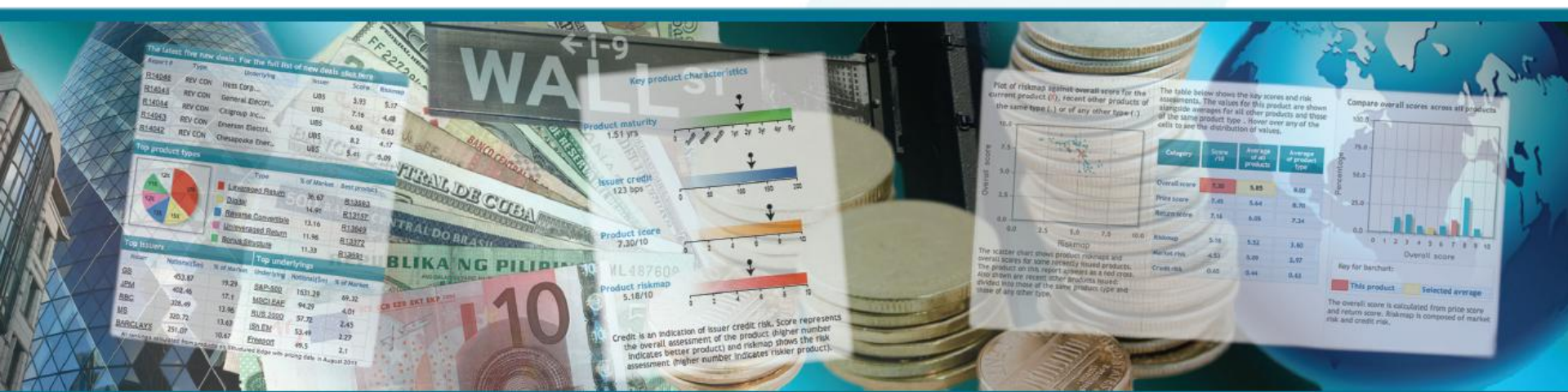




# Delivering expertise and transparency in financial markets



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# Company Overview

Future Value Consultants (FVC) is a research, product design and analytics consultancy specialising in structured products and algorithmic strategies, pioneering the concept of quantitative analysis of structured products for which it remains the market leader.

FVC delivers whole of market structured products research reporting from markets around the world and has extended this to portfolio analysis. It also performs independent valuations covering a wide range of structured products and derivatives. Additionally FVC has a strong index calculation business specialising in algorithmic and bespoke indices.

Its services combine usability web-delivered technology and expert research and analysis aiming to provide clients with solutions addressing all of their requirements.

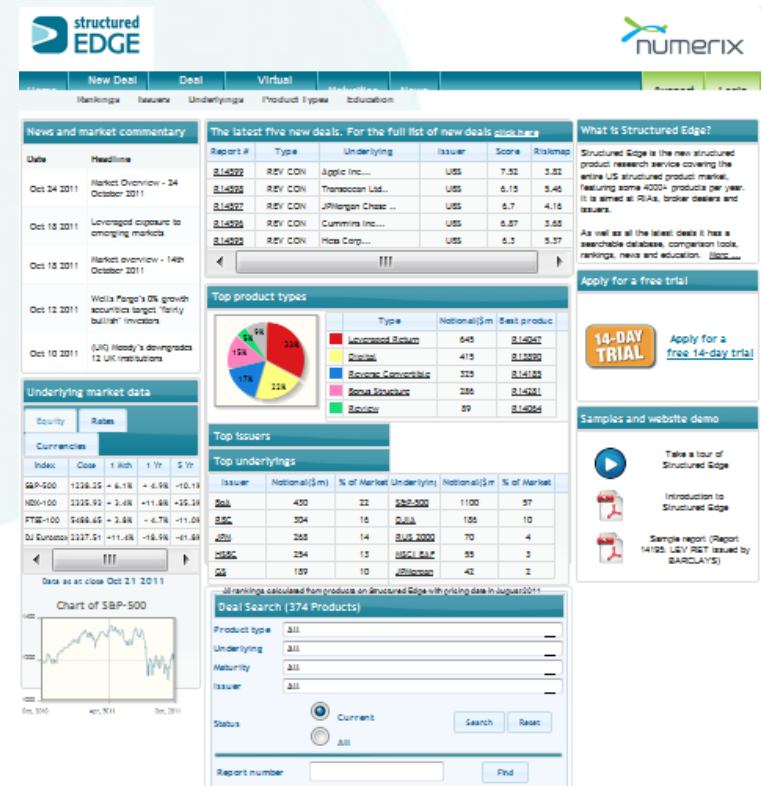
FVC's clients include many of the largest global investment banks as well as product providers and institutional buyers of structured products. It is frequently represented at conferences, supports education initiatives and regularly contributes to industry publications.

# 1. Research Reporting

Our flagship structured products research reporting service now covers the UK and US markets. In the US structurededge.com is delivered in conjunction with *Numerix* the leading analytics provider. FVC developed the world's first objective, independent quantitative structured product analysis service which has been in operation in the UK since 1999. Our reports and analytics are used extensively by thousands of financial professionals and are recognised as the standard for structured products analysis.

FVC considers all relevant factors to provide the user with an all-round analysis to assist in their own research on a structured product.

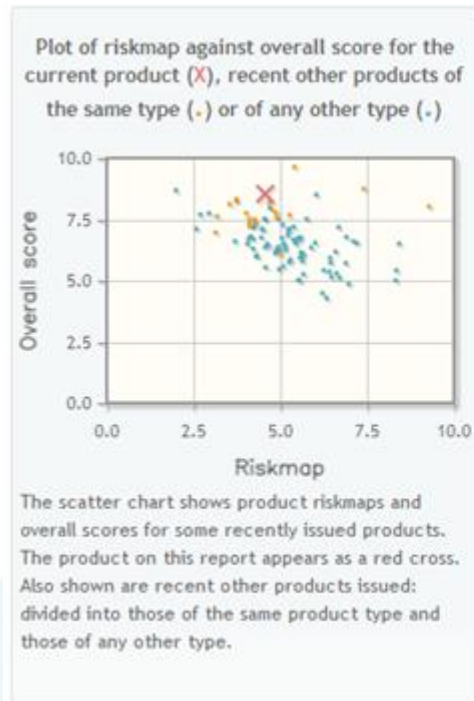
The first part of an FVC report contains a product summary and product description, outlining the key features and properties of the product. This description provides a clear summary of the product's terms as well as a comprehensive review, detailing the advantages and disadvantages of the product.



# Quantitative Assessments

The key metrics of price, returns and risk are the core of FVC research outputs. When analysing a product we assess fair value, return prospects and downside risk.

This draws on all FVC's capabilities and expertise to deliver intuitive yet consistent metrics which our clients rely on.



The table below shows the key scores and risk assessments. The values for this product are shown alongside averages for all other products and those of the same product type. Hover over any of the cells to see the distribution of values.

Category	Score /10	Average of all products	Average of product type
Overall score	8.54	6.06	7.15
Price score	8.85	6.02	7.17
Return score	8.23	6.10	7.12
Riskmap	4.56	5.45	4.45
Market risk	3.01	4.98	3.82
Credit risk	1.55	0.47	0.62





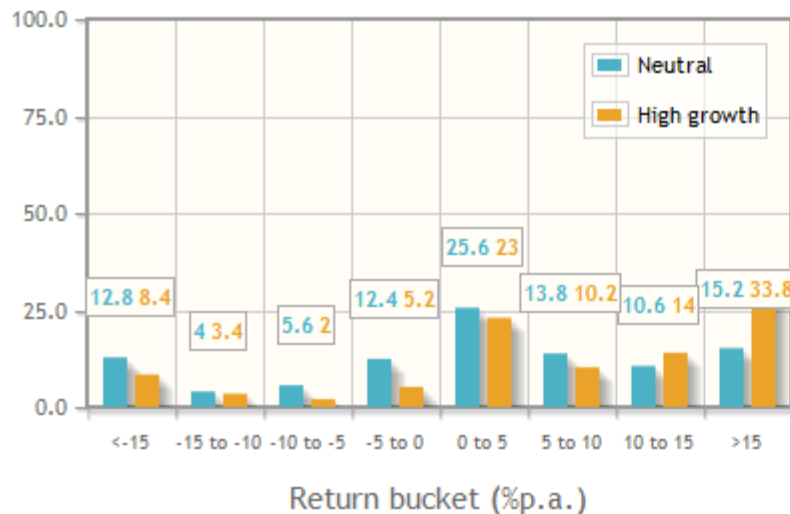
# Probabilities of Outcomes

The use of probability charts show how the product might be expected to perform under different assumptions.

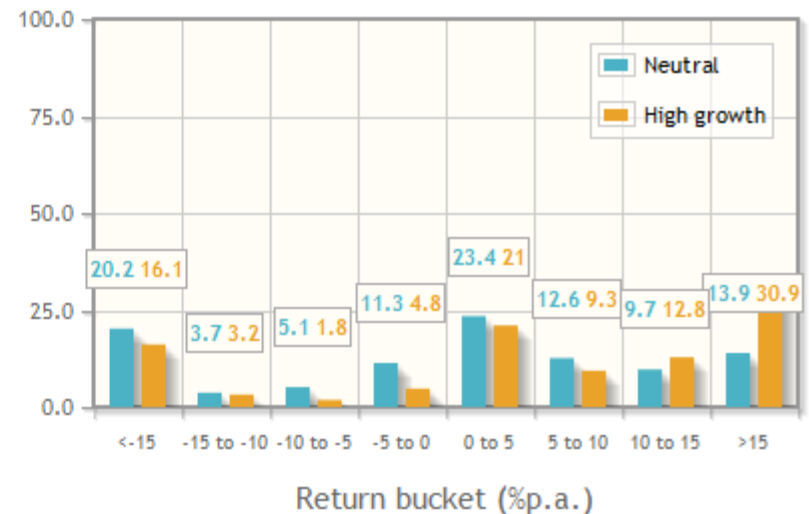
The report shows charts of probabilities of various absolute returns as well as performance compared to cash returns. It shows the probabilities with and without the effect of credit risk taken into account.

It allows the user to view the effect of different assumptions including a moderate growth and higher and lower rates of growth and volatility.

Issuer credit risk excluded



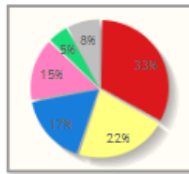
Issuer credit risk included



# Rankings and Trends

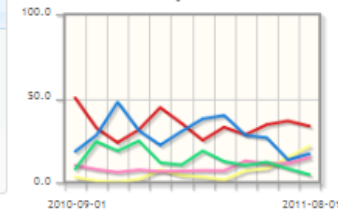
Using the data collected through producing the product reports FVC can compile detailed statistics on structured product markets. These can be used to analyse trends and give our clients an insight into the market as a whole.

Top product types

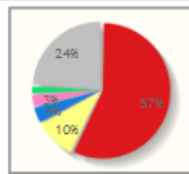


Rank	Product Type	Notional (\$m)	Notional (%)	Products (#)	Products (%)
1	Leveraged Return	645	33	80	16
2	Digital	415	22	28	6
3	Reverse Convertible	325	17	331	65
4	Bonus Structure	286	15	21	4
5	Review	89	5	12	2

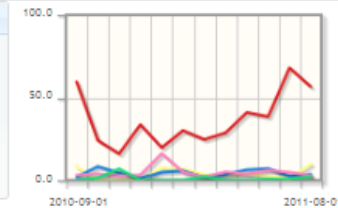
Evolution of market share over the last year



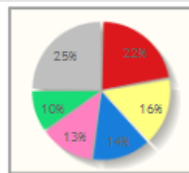
Top underlyings



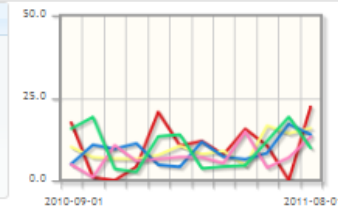
Rank	Underlying	Notional (\$m)	Notional (%)	Products (#)	Products (%)
1	S&P-500	1100	57	95	19
2	Dow Jones Industrial Av	186	10	12	2
3	Russell 2000 Index	70	4	16	3
4	MSCI EAFE Index	55	3	5	1
5	JPMorgan Chase & Co.	42	2	22	4



Top issuers



Rank	Issuer	Notional (\$m)	Notional (%)	Products (#)	Products (%)
1	Bank of America	430	22	13	3
2	Royal Bank of Canada	304	16	71	14
3	J P Morgan Chase & Co	268	14	84	17
4	HSBC USA INC /MD/	254	13	35	7
5	GOLDMAN SACHS GROU	189	10	18	4



## 2. Valuation Services

There are many elements to providing a market-leading valuation service.

The pricing of a client's portfolios requires accurate, fast and extensive modelling capabilities, live accurate compiled data of all market parameters, an understanding of market practice and the variety of trades seen in different markets. It is very important to have the ability to report back numbers to clients in a digestible manner for them, provide expertise to be able to explain methodologies and give comprehensive and timely support for the reconciliation process.

It is this understanding of the principles of an excellent valuation service coupled with an access to markets, products and senior client contacts that sets FVC apart from other valuation providers.

Our models have successfully valued and calibrated thousands of trades daily and our pricing curves underpin accurate pricing, including the estimation of credit and funding spreads consistent with market values.

We take on a client's portfolio and satisfy their auditing or compliance requirements while providing valuable insight into their portfolio from our experienced qualified personnel.



FVC's comprehensive valuation service is used by many major institutions. We have the capability to value vanilla and exotic instruments linked to many different asset classes such as equity (index, stock or funds), fixed income, FX and commodities.

Our knowledge of pricing models and qualitative techniques as well as market practice combine to build theoretically sound approaches consistent with the market taking all factors into account – pricing parameters, demand/supply and illiquidity, bid/offer spreads etc.

Our valuation services combine efficient, flexible and competitive valuation of derivatives and structured products with client reporting and online pricing capabilities.

Latest valuation for **Trade 82 : 2 yr maturity Call Spread linked to SPX (USD): 127.28** as at 2012-04-27

Counterparty Name:	Issuer 1	Currency:	USD	Strike Date:	2010-07-13
Book Name:	US	Underlying:	SPX-500	Final Market Date:	2012-07-12
Book Currency:	USD			Maturity Date:	2012-07-12

ID	Cashflow Type	Values
Cashflow 1	Fixed cashflow	Paydate=12/07/2012, amount=100
Cashflow 2	European option	Paydate=41102, strike=100, put/call=1, gearing=1
Cashflow 3	European option	Paydate=41102, strike=150, put/call=1, gearing=-1

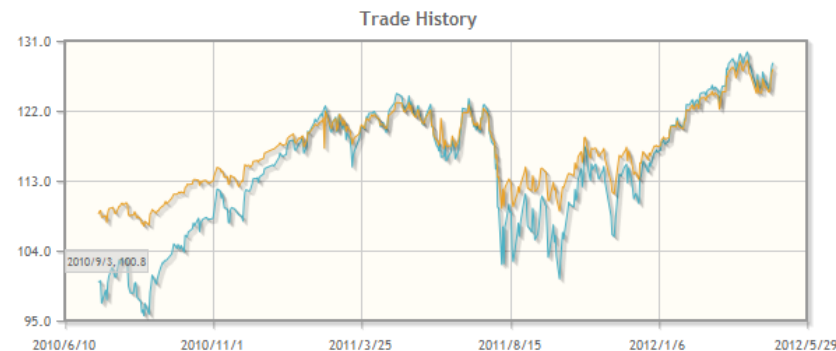
[Download Documentation](#)



All valuations



- ☒ Underlying value x, y:
- ☒ Trade Valuation x, y:
- ☐ Trade Valuation (LF) x, y:
- ☐ Interest Rate x, y:
- ☐ Volatility x, y:



# 3. Index Calculations

“Custom” rules based strategies and proprietary indices have grown in popularity in the last few years and FVC has established itself as one of the major index calculation agents with clients from many investment banks.

Providing a specialist service in this area requires data sourcing and modelling techniques to accurately verify index values for a variety of different strategies.

Leveraging its experience in structured products and valuations as well as its own work in developing benchmark indices FVC acts as calculation agent for an index designed by a client as well as perform substantial back-testing and optimization of the index construction if required.

Working from the index definition we calculate and verify back-testing histories and set up the on-going calculation engine to provide daily overnight values. Index values and breakdowns are made available to the client as well as a rapid resolution process and timely publication of values to designated websites or secure data feed.

# 4. Training and Education

In 2012 we made it our goal to produce the most interactive and comprehensive set of structured product online learning modules.

Comprising a knowledgebase of several dozen individual topics and a set of product walkthrough simulations which detail the different product payoffs in each market.

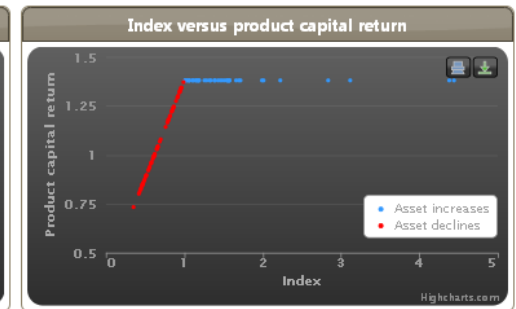
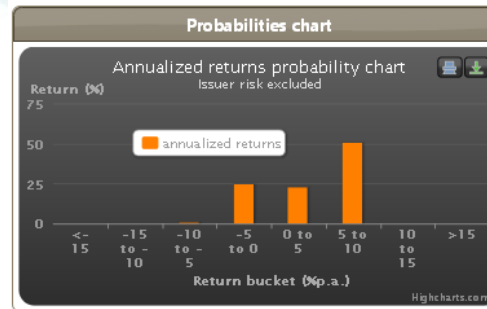
**Product 1:** 7.6% coupon, no barrier

The scenarios depend on where the underlying asset finishes relative to its start level

**Key scenarios:**

a) **Asset increases:** This is the desired scenario for the investor. In this case, as the reference asset has not fallen below its initial level, the investor receives full return of capital at maturity in addition to the fixed coupon.

b) **Asset declines:** This is the worst scenario for the investor. Since the reference asset is below its initial level on the final valuation date and there is no protection barrier, the investor receives an amount less than their initial capital which is equivalent to the decline of the asset. Payment of coupons is unaffected



**Product 2:**

- 5 year term
- 7.2% income
- 50% American barrier (can be breached throughout term)

Choose from four different path scenarios to illustrate key possible outcomes.

The product evolution and payoff table is shown in real time

**Scenario 1:** No barrier breach

**Scenario 2:** Barrier breach and recovery

**Scenario 3:** Barrier breach and partial recovery

**Scenario 4:** Barrier breach and no recovery

**Scenario 3: Barrier breach and partial recovery**

The barrier was breached after 2.15 years, capital is now at risk

Since the barrier has been breached and the index has failed to recover the amount of capital repaid to the investor depends on the final level of the index. Payment of coupons is unaffected.

**Product performance**

Index	84.91
Performance	84.91
Capital	84.91
Income	36
Growth	0
Total Return	120.91

We now have a market-leading product providing the best compliance, learning and reference aids. These are delivered in a cost and time effective manner providing a true enterprise solution

Using our structured products expertise we construct training materials to fit the needs of a wide range of users. As well as the online training suite described on the previous slide we cover:

- FVC Handbook
- Specialised training days aimed at financial professionals
- Stress testing for product due diligence
- Bespoke reporting or tools for clients to share with investors



# 5. Investor Portfolio Analysis

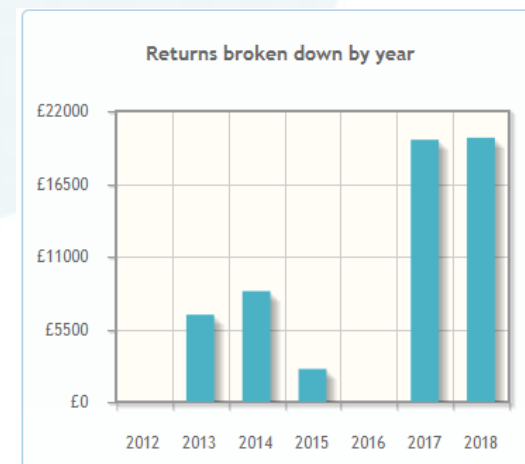
FVC has developed tools to show information on a portfolio of structured products drawn from a database of thousands of existing products. This scalable solution can be used to deliver up-to-date statistics for thousands of brokers or advisers for their end clients.

We combine easy to digest “what-if” tools with accessible simplified quantitative analysis.

This allows users to demonstrate the effect of different index growth assumptions on their portfolio of structured products. It shows dynamic charts which respond to different growth rates by showing the timing and amount returned for different investments.

Investments				
Provider	ID	Amount returned	Date	% return
Walker Crips Structured Investme	1737	6,600.00	07-Jul-2013	20
Barclays	113	8,378.00	19-Nov-2014	18
Investec Structured Products	1197	2,500.00	07-Sep-2015	25
Gilliat Financial Solutions	1421	5,400.00	11-Jan-2017	80
Cater Allen Private Bank	1741	9,675.00	29-Aug-2017	50
RBS	2237	4,761.90	16-Nov-2017	43
Merchant Capital	2318	10,706.80	30-Apr-2018	42
Morgan Stanley	2333	9,280.00	31-May-2018	60

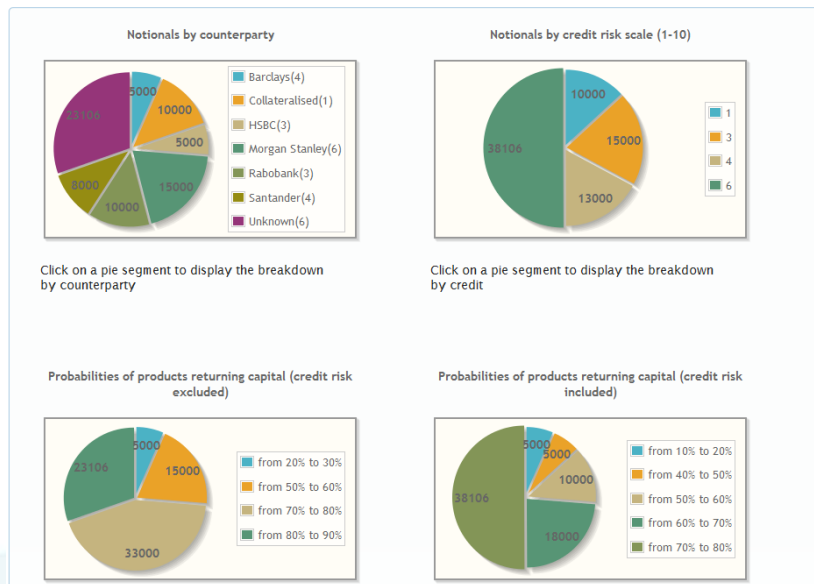
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The portfolio application also shows breakdowns by counterparty credit strength and ratings and measures of probabilities of capital returns.

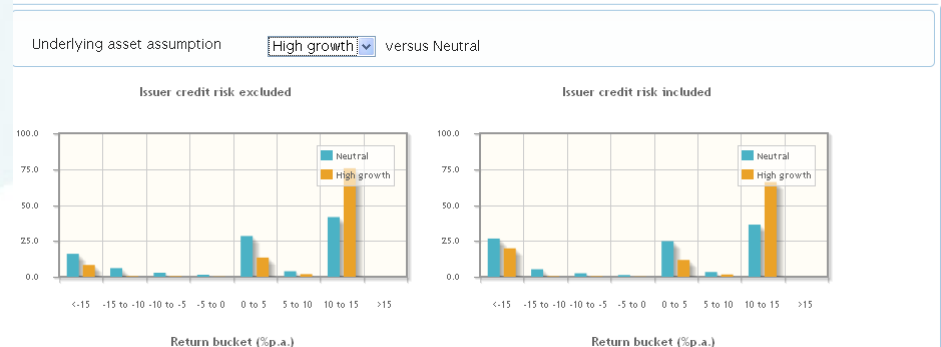
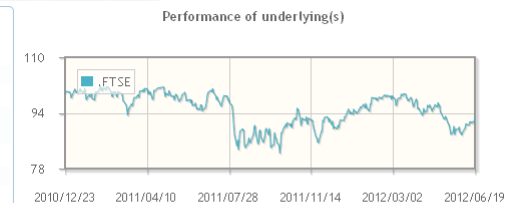
Details of each product and the overall portfolio are available along with current assessments.

It is also possible to see the evolution of the underlying assets, key events such as barrier breaches and daily updated probabilities of return prospects at maturity.



**Key characteristics for selected investment**

Riskmap	4.86/10
Market riskmap	3.19/10
Credit riskmap	1.67/10
Counterparty	Royal Bank of Scotland
Counterparty credit risk scale	5/10
Probability of capital return (exc. credit risk)	73.8%
Probability of capital return (inc. credit risk)	64.45%
Maximum time left (years)	4.73





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