Structured Products Market Performance Review

France 2018

SUPPORTED BY:

association française des produits d'investissement de détail et de bourse

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SRP

Foreword

The French AFPDB which represents the main manufacturers of retail structured products that are distributed in France – corresponding to over 35 billion € of annual issuances – welcomes the publication of this SRP product performance report on France.

This past decade, from 2007 up to the beginning of 2018, which the study analyses in depth, was certainly a very eventful one.

One major systemic crisis, several regional crises, a fundamental overhaul of the regulatory framework – which notably took us from the lean Investment Services Directive to MIFID1, first, and then the thousands of pages of MIFID2…

Not exactly a bed of roses for the financial markets and investors alike.

However, during these testing times, as the study shows, structured products have proven that they disserved to be an integral part of the French retail investors portfolios, allowing them to access rewarding strategies while a diversifying their risk exposure.

Measuring performance precisely and independently – as this SRP report does –is a crucial element in the credibility of this industry and the AFPDB will continue to support research initiatives in this area.

These efforts go hand in hand with other projects that the AFPDB promotes in order to ensure a longstanding client satisfaction, either on its own initiative, or in cooperation with other leading industry associations, notably through EUSIPA at a European level or together with the French AMAFI at a national level.

These current work-streams involve harmonizing pan-European product typologies and promoting common European standards for detailed distributor information on the product target market and its related cost information. They also aim at improving appropriateness tests of clients based on a more granular assessment of client understanding of the key elements of structured product pay-offs. Also, together with leading institutions in client surveys, the AFPDB will continue to monitor the effective target market through large scale client studies.

"Product performance may vary" – legal disclaimers routinely say.

What shall not fluctuate however is the unwavering commitment of our industry to continue to improve product quality and service excellence so that structured products always remain a long-term value-for-money investment solution as this SRP study so clearly demonstrates.

Sincerely yours,

Jean-Philippe CAVROIS
President, AFPDB, French retail structured products association **www.afpdb.org**

Introduction

Structured Retail Products (SRP), part of the Euromoney group of companies, is the leading online resource for the global structured products industry. With over 3,000 registered users and more than 19 million product listings covering over half a billion data points (as of August 2018), the website is the primary information source for a wide range of businesses involved in the manufacture and distribution of structured investment products.

As of September 2018, SRP is commemorating 20 years of the first product on our France database, therefore we decided, with the support of the AFPDB, to carry out an in-house research report, with the primary source being the extensive product databases of StructuredRetailProducts.com.

This report provides an analysis of the performance of structured retail products distributed in France that matured or expired between 2007 and the first quarter of 2018 (2018Q1). The analysed data includes a total of 2,830 “tranche” products and it is compiled from the StructuredRetailProducts.com France database, which covers over 6,000 tranche products, of which 2,238 are live year-to-date.

What is a Structured Product?

The term Structured Product refers to an investment product designed to provide a return that is pre-determined with reference to the performance of one or more underlying markets. A structured product is typically comprised of a bond and an option, with the former to guarantee capital protection at maturity, and the latter protect capital, achieve a higher return, or both.

Methodology

Data collection and criteria

The performance data has been extracted from public sources such as issuer websites and submissions from market players. Additional performance data has been calculated in-house and is based on the performance of the underlying over the investment period.

The calculation of the performance takes into account the capital return and all interest, fixed or variable, paid during the lifetime of the investment and at maturity.

Choice of benchmark

While we calculated product performance in absolute terms, we deemed it appropriate to compare it to benchmarks that represent industry standards and/or investment choices investors might have made had they not invested in a structured product. As such, for every single structured product, we selected a benchmark that the investor could have chosen on the initial date, and compared the performance of the benchmark during the life of the structured product until the maturity date.

Due to the diversified nature of structured products, where capital protection can vary, we decided to divide the structured products in two categories: capital-protected and capital-at-risk.

A natural choice for any investment which is fully capital-protected is a risk-free interest rate benchmark, so the investor can gauge their excess return above the equivalent interest rate. As such, for fully capital-protected products we have compared annualised return of the structured products with the equivalent Euribor interest rate, up to a one-year term. Returns of capital-protected products with longer terms have been compared to the equivalent interest swap rate of 18 months to 10 years, depending on the maturity date of the products.

For the capital-at-risk products, we opted for the French domestic benchmark Cac 40, as a high proportion of the products covered by this report will be equity-linked. The typically high correlations between equity index underlyings should also make the local domestic index an acceptable benchmark when the underlying is linked to foreign equity indices, although we did not take into account the soft protection offered by some structured products.

Limitations

The returns shown do not take into account management fees in the case of a life insurance or investment contract, nor custodial fees in the case of an investment in a securities account. In addition, returns exclude entry / arbitration fees in the case of a life insurance or investment contract, as well as the subscription fee in the case of an investment in a securities account and social and tax levies.

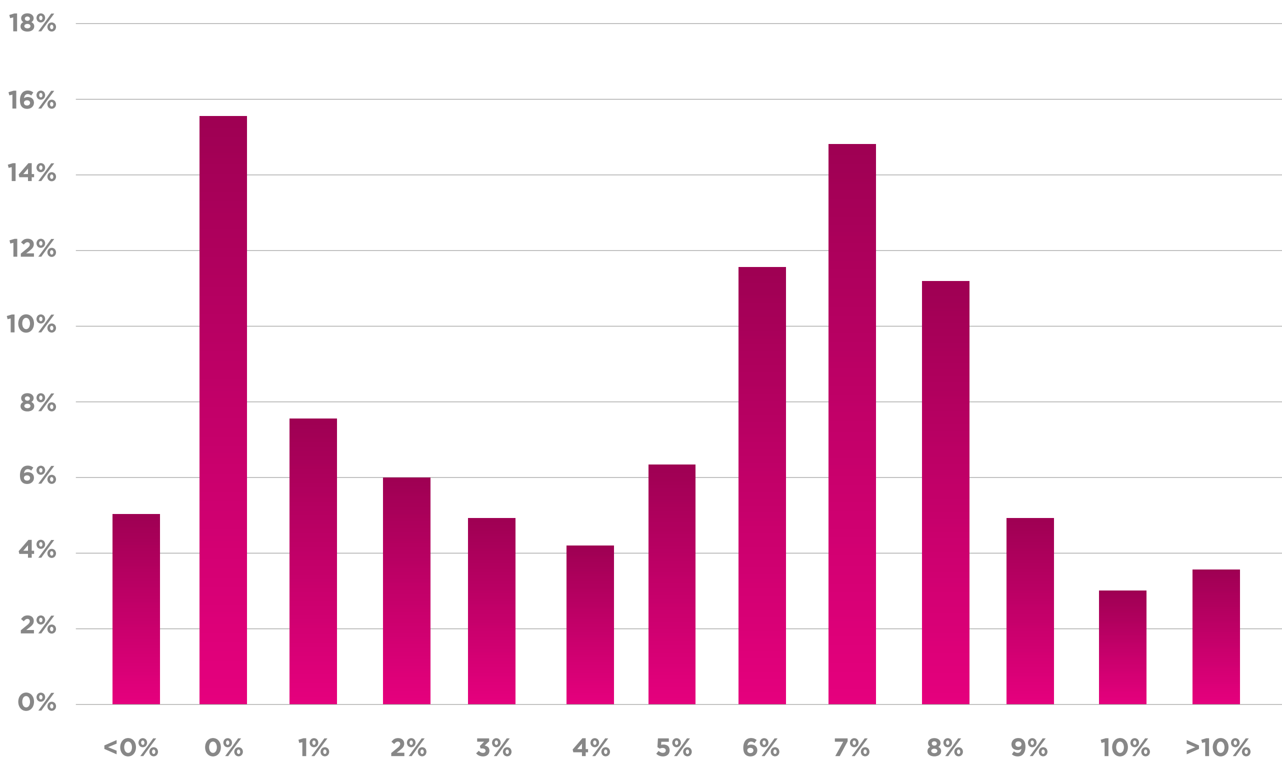
The study analyses only the products for which SRP has collected or calculated the performance (84% of the matured products in the database).

The performance data is not evenly distributed across the analysis period, meaning that for some time periods there are more performances than for others.

Performance Analysis

- Structured products averaged a 4.37% annualised return between 2007 and 2018 Q1
- Only 5% of the analysed products scored negatively
- Performance has been increasing since 2013 to peak at 6.2% annualised return in 2018 Q1

Histogram of annualised performances (2007-2018 Q1)



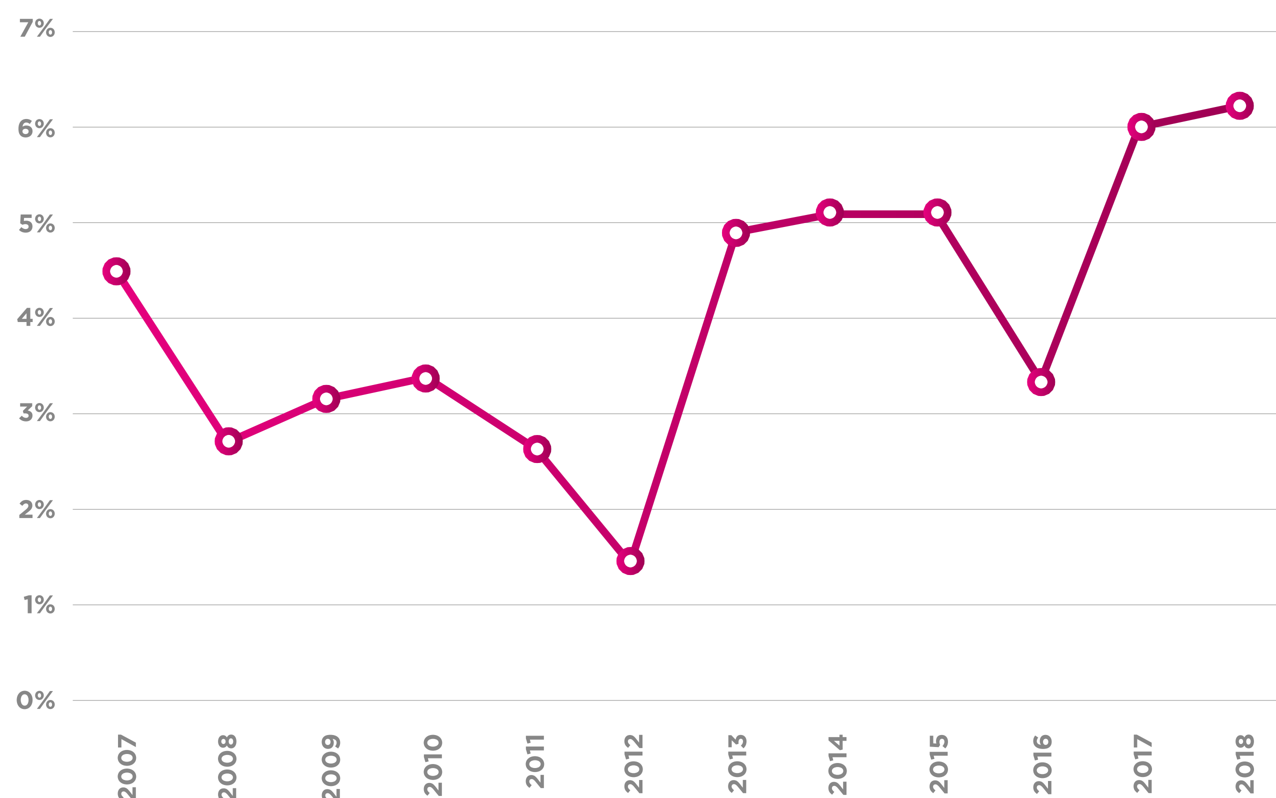
From all the products with performance, 79% of the products which matured between 2007 and 2018 Q1 delivered a positive return at the end of the investment term (3.7 years on average), according to SRP data. More than half of the products (56%) returned 5% or more.

Only 5% of the analysed products delivered less than the initial capital, compared with 15% which returned the initial capital at the term of the investment. Of this 5%, returns were between -0.08% and -92% p.a., resulting in an average loss of -6.77% p.a.

When it comes to the historical performance, we can observe two distinctly different dynamics in the performance of structured products, notably before and after 2012.

Products coming to maturity before 2012 were largely affected by both the global financial crisis and

Historical Performance of Structured Products (2007 - 2018 Q1)



the European sovereign debt crisis but still provided earnings based on their average performance. The vast majority featured exotic payoff formulas largely betting on the dynamics of one asset versus a basket of underlying assets, which partially explains why products maturing before 2012 behaved in unexpected ways compared with the underlying. At the peak of the crisis, structured products experienced two periods with falling levels of return. However, they still provided investors with positive returns, based on the average performance of the analysed products.

Since 2008, the French Financial Markets Regulator (Autorité des marchés financiers - AMF) and the French Financial Supervisory Body (Autorité de Contrôle Prudentiel et de Résolution - ACPR) have highlighted the importance of transparency and simplicity for structured products which translated in a decrease of exotic payoff formulas.

More standardised structured formulas, supported by rising equity markets, delivered positive performances despite progressively lower interest rates. Maturities between 2012 and 2018 have displayed a steady increase in their returns, dipping slightly in 2016 when markets were affected by the Chinese stock market crash and the collapse in oil prices.

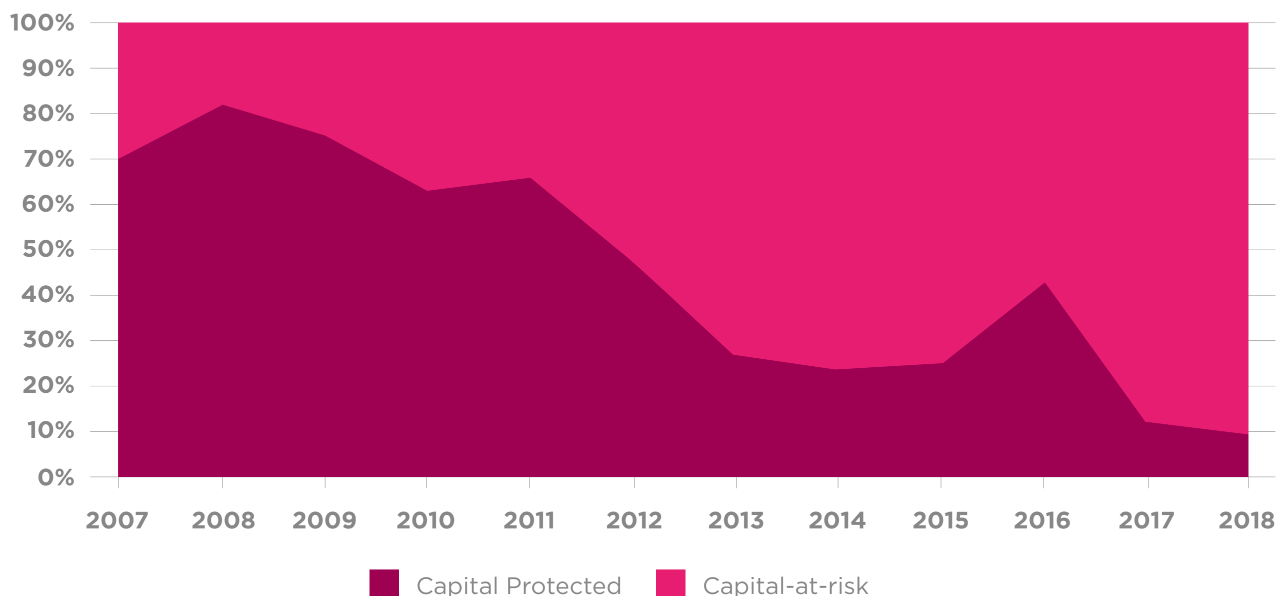
After 2012 structured products have tended to deliver returns of 5, 6, or 7% p.a. which outperform the overall levels of a risk-free investment. We also concluded that products with an early redemption "autocallable" feature (a.k.a., Knock Out) have significantly improved the average capital return across all payoffs that it has been used in combination with. This is because autocallables are able to capture upside market movements most other payoffs cannot access.

Capital-protected products vs. capital-at-risk products

To ensure that we analyse the performance of these products correctly, we distinguish between two main structured product families, depending on whether the invested capital is guaranteed at maturity. With the former, investors recover 100% of their initial investment at maturity (except in case of bankruptcy, default of payment or resolution of the issuer).

The latter, which has become the most common category due to the low interest rate environment, typically delivers higher returns, but the initial capital is at risk and the investor may lose all or part of the original investment, depending on the performance of the underlying. Typically, these types of products offer conditional or partial protection against a decline in the underlying of typically 30%, 40% or even 50% at maturity, within which limit the capital is guaranteed. Beyond this threshold, however, the investor is exposed to the fall of the underlying. The protection itself is carried out through a “knock-in” barrier, which is set at a level lower than the strike price. If the barrier is breached, the percentage of the initial capital returned at maturity will be determined by the performance of the underlying in relation to its opening level.

Capital Protected vs Capital at Risk * by number of maturing products



Capital-protected products have accounted for the vast majority of the maturities before 2012. Since then, capital-protected maturities in the sample have given way to capital-at-risk products. This is because of continuously low interest rates, which has made it more expensive to buy options at inception. Higher interest rates require less to be set aside to ensure the full return of capital, and therefore more is left to be spent on the options. This has generally allowed for more attractive investment returns. In difficult market conditions, manufacturers sought to address investors’ need for yield and capital protection by developing defensive capital-at-risk structures aiming to offer a returns in bull, flat or even bear markets. This has been achieved with the use of the “autocallable” mechanism, whereby products with longer maturities have the possibility to redeem early. We will elaborate more on the “autocallable” payoff further in this report.

Capital-protected products

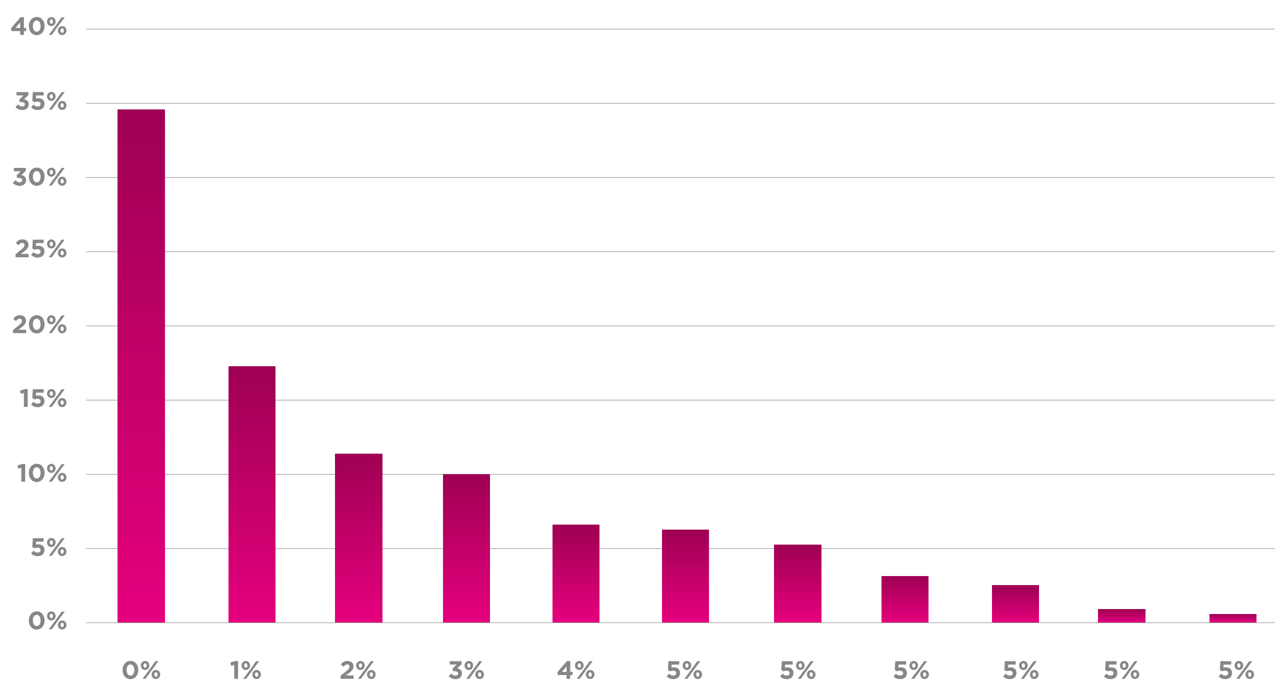
- **Capital-protected products outperform when they only return the initial capital, as generally a direct investment on the underlying would mean a loss of capital**
- **Issuers' increased level of funding in the post-crisis period led to a higher spread and outperformance compared to other risk-free investments**
- **Capital-protected products experienced a sharp decrease after 2012, which was followed by shift towards capital-at-risk products**

Prevailing low interest rates have gradually restricted the issuance of fully capital-protected structured products. Of the 3,000 products issued since 2013, only 216 guaranteed at least 100% of the nominal invested. The share of capital-protected products has significantly decreased compared with the period between 2007 and 2012, when such products accounted for 44% of the market (646/1,464). Seeking to offer yield in a prevailing low interest rate environment, providers have gradually shifted from fully capital-protected products to structures with conditional protection.

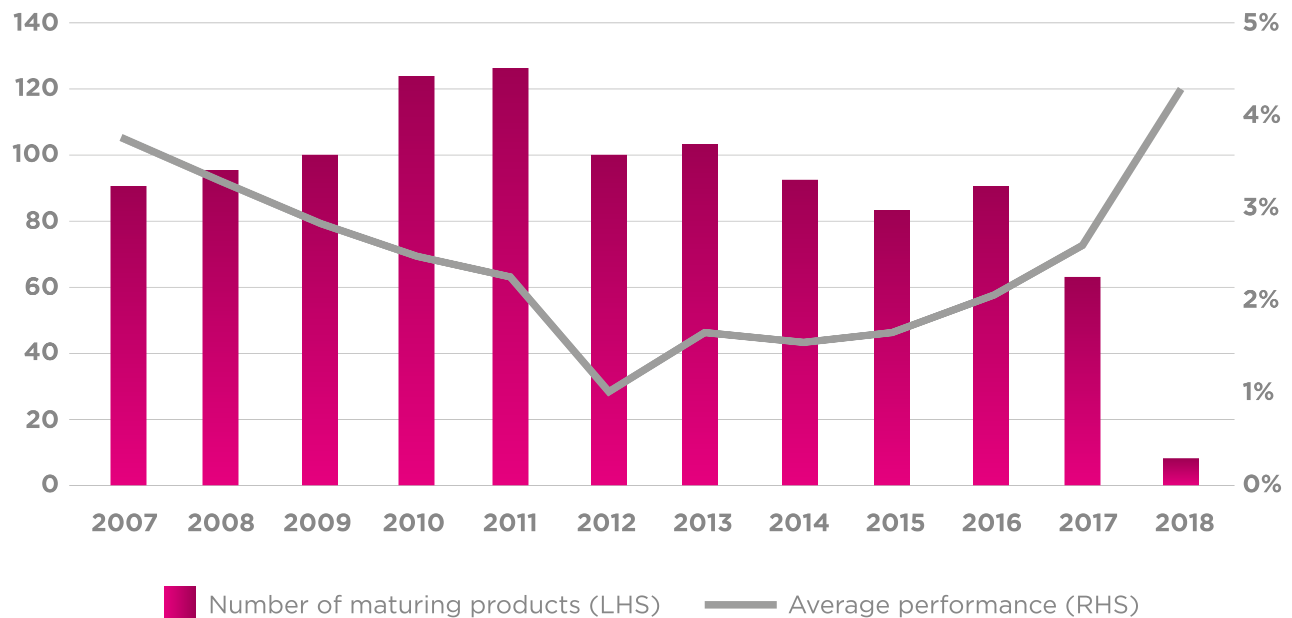
We analysed 1,074 matured capital-protected products in France with maturity dates between 01 January 2007 and 31 March 2018. These products initially gathered EUR 112.8bn of sales and delivered an average annualised return of 2.28% when they matured.

Nearly 35% of the products in the analysed capital-protected sample returned the initial investment, while 42% have delivered a return above 2%.

Histogram of annualised performances: Capital Protected Products (2007-2018Q1)



Histogram of annualised performances: Capital Protected Products (2007-2018Q1)



Capital-protected structures pulled through the post-global financial crisis period with decreasing average returns, plummeting from nearly 4% at the end 2007 to slightly below 1% as of end 2012. The decrease was in line with falling interest rates and French ten-year government bond yields. Although structured products seemed to be more affected by the declining yields trend, since 2013 their returns stabilised, positively influenced by issuers' increased funding level post-crisis.

The tables below highlight a few characteristics of the sample, which broadly match the characteristics of the overall capital-protected market in France. In fact, as can be seen below, the typical product within our capital-protected sample would be a five to eight-year structure on the Eurostoxx 50 or linked to a basket of shares.

The sample is heavily weighted (at 75%) toward equities, whether it is shares, baskets or indices. In fact, 27% of the products (22% of sales) are linked to the Eurostoxx 50 as a single index. If baskets containing the Eurostoxx 50 were added to the above figure, the proportion of the sample that is linked to this index rises to 39% (number of products) and 37% (sales).

Basket of equities were predominantly used in products distributed before 2007 and accounted for 22% of the capital-protected sample and for 24% of the collected sales volume.

The sample is dominated by simple Uncapped Call structures offering either full but more often partial participation in the upside of the underlying asset. A specificity of the analysed participation products in the sample, is the fact that the majority were not designed to capture the final evolution of the underlying, but an arithmetic average of its performance measured at a specified frequency during the investment term. The lack of significant (adjusted) performance of the underlyings further explains the underperformance of the Uncapped Call payoff during the post-crises years.

In contrast, and as we can see in the table below, the autocallable feature (Knock-Out) has tended to significantly improve the average capital return across all payoffs that it has been used in combination with. This is because autocallables are able to capture the upside market movements most other payoffs cannot access.

Table 1.1: France: asset classes within the capital-protected

Asset Class	Number of products	Market share by volumes (%)	Average annualised return (%)
Equity (Single Index)	387	28.39	2.58
Equity (Index Basket)	185	27.61	2.09
Equity (Share Basket)	234	23.81	2.52
Fund	157	10.10	1.85
Hybrid	78	7.94	1.29
Interest Rate	11	1.22	2.69
Equity (Share Basket), Equity (Single Index)	6	0.60	0.56
Credit	2	0.11	1.99
Inflation	3	0.10	2.74
Others	3	0.05	6.23
Alternatives	4	0.04	0.32
Commodities	4	0.03	3.28
Grand Total	**1074**	**100**	**2.28**

Table 1.2: France: payoffs within the capital-protected

Payoff	Number of products	Market share by volumes (%)	Average annualised return (%)
Uncapped Call	231	18.33	1.99
Portfolio Insurance	142	11.71	1.31
Knock Out, Uncapped Call	113	11.60	3.42
Capped Call	87	9.78	2.82
Exotic	63	9.12	2.92
Best of Option	65	5.56	1.84
Cliquet	60	4.37	3.14
Fixed Upside	23	3.80	2.00
Altiplano	39	3.48	0.99
Himalaya	18	1.90	3.29
Digital	35	1.73	2.92
Rainbow	22	1.27	2.17
Best of Option, Uncapped Call	13	0.84	0.38
Podium	10	0.44	3.97
Worst of Option	10	0.28	1.61
Other	143	15.81	
Grand Total	**1074**	**100**	**2.28**

Cliquet features together with Himalaya and Podium payoffs produced among the best average results in the sample, each returning above 3% p.a.

We should note, however, that the highest returns of the Himalaya payoff were achieved before 2008. The product aims to pay a coupon at maturity, based on the average of the performance of the best shares (or indices) of a basket, across specified periods during the term of the product. At each observation date, the best performing stocks in the basket are removed for subsequent periods and their performances are locked in. Himalaya structures have also been negatively affected by post-crisis falling markets.

Market conditions post-2008 explain why Altiplanos failed to meet their investment objectives and returned less than half the performance of the overall sample. The payoff is defined by the dynamics of one asset versus a basket of underlying assets and seeks to offer a fixed coupon at maturity provided none of the underlyings have fallen below their barrier level before maturity.

Portfolio insurance products (also known as CPPI) failed to deliver strong returns. Quite popular before 2008, these medium-to-long-term products dynamically allocate between a risk-free asset and a risky portfolio, seeking to combine upside potential with a capital guarantee. The payoff suffered from the equity downturn in the period between 2008 and 2009 and ceased to perform during the subsequent rebound of the markets due to the need to protect capital at maturity.

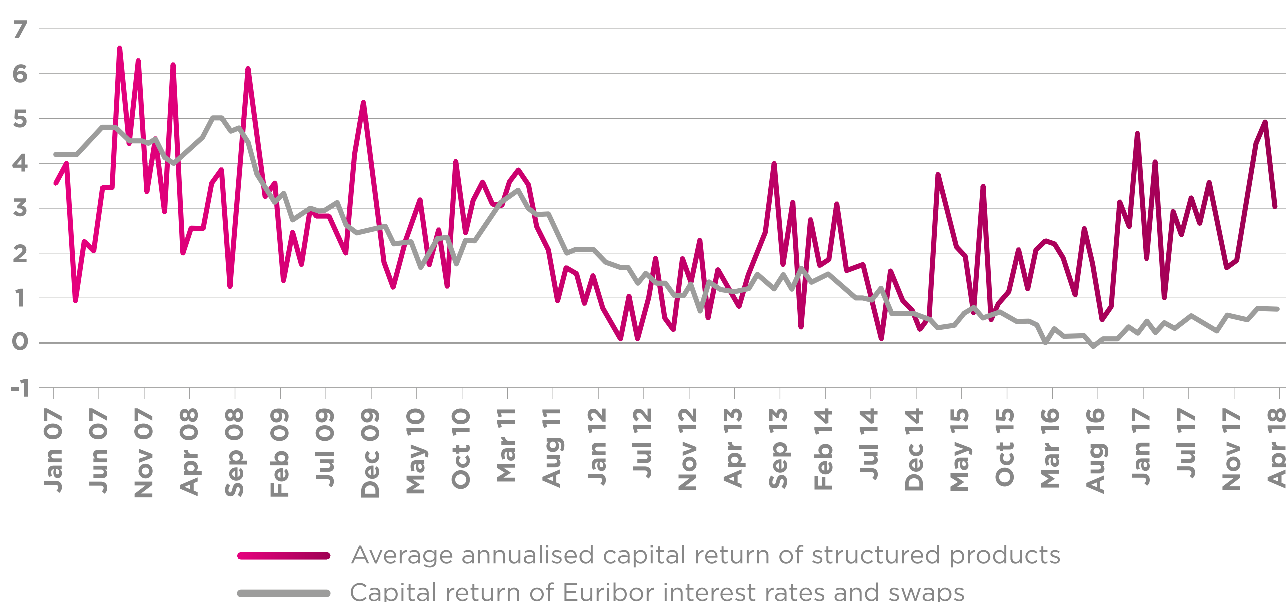
Only 94 products in our capital-protected sample, representing initial sales of EUR 8.7bn, have matured earlier than planned. This means only 8.7% of the sample of capital-protected products had a maturity date other than the one planned. The main reason for the lack of early termination is the fact that only 143 products (13%) include an autocallable (Knock Out) feature. Half of these (75 products) failed to breach the early redemption barrier, and have gone through their stated maturity, returning an average annualised 1.13% (compared to 6.2% p.a. for those which expiried at an earlier date).

Table 1.3: France: terms within the capital-protected

	Planned term			Actual term		
Years	**Number of products**	**Market share by volumes (%)**	**Average annualised return (%)**	**Number of products**	**Market share by volumes (%)**	**Average annualised return (%)**
<1 year				1		4.62
1	1		1.98	17	1.28	7.86
2	35	3.83	1.80	48	4.98	3.11
3	42	1.77	2.30	51	2.32	2.96
4	84	8.47	2.89	104	9.67	3.21
5	171	16.52	2.63	165	15.27	2.33
6	298	27.75	2.01	293	28.06	1.94
7	29	3.05	2.49	31	3.84	2.50
8	355	36.27	2.38	312	32.32	1.91
9	11	0.67	2.56	10	0.63	2.02
10	44	1.63	0.78	41	1.61	0.57
More than 10 years	4	0.04	2.76	1	0.01	3.96
Grand Total	**1074**	**100**	**2.28**	**1074**	**100**	**2.28**

Historical performance of capital-protected versus interest rates

Capital protected products vs. Euribor interest rate (2007 - 2018Q1)



Capital-protected structured products are strongly dependent on issuer's funding level, which is the interest rate plus the spread (risk) of the issuer. The spread itself depends on the credit rating of the issuer, which is highly correlated with the risk of default of the issuer. This explains why yield delivered by capital-protected products mainly depends on issuers' credit risk, which is a function of its credit rating.

The post-crisis downgrading of issuers' credit rating has translated in higher level of funding, which resulted in a higher spread for the products that matured in 2013 and from 2015 onwards. Given that almost 70% of the products in the analysed sample have had an actual investment term between 6 and 10 years, this explains why products maturing in these periods have clearly outperformed the interest rate.

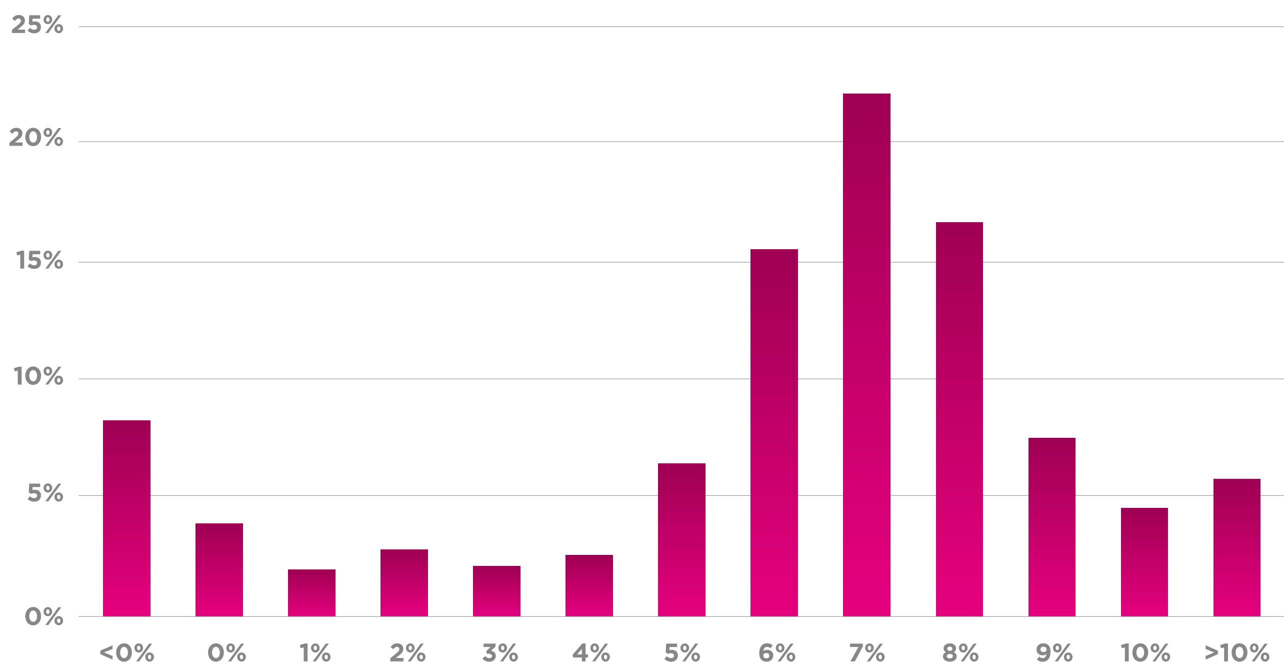
Capital-at-risk

- Capital-at-risk products averaged a 5.64% annualised return between 2007 and 2018Q1
- 78% of the capital-at-risk sample delivered 5% p.a. or more
- Only 8.3% of the analysed capital-at-risk products returned less than the initial capital

We analysed 1,756 matured capital-at-risk products in France with maturity dates between January 1st, 2007 and March 31, 2018. These products initially gathered an estimated EUR 42.7bn of sales and delivered an average annualised return of 5.64% when they matured.

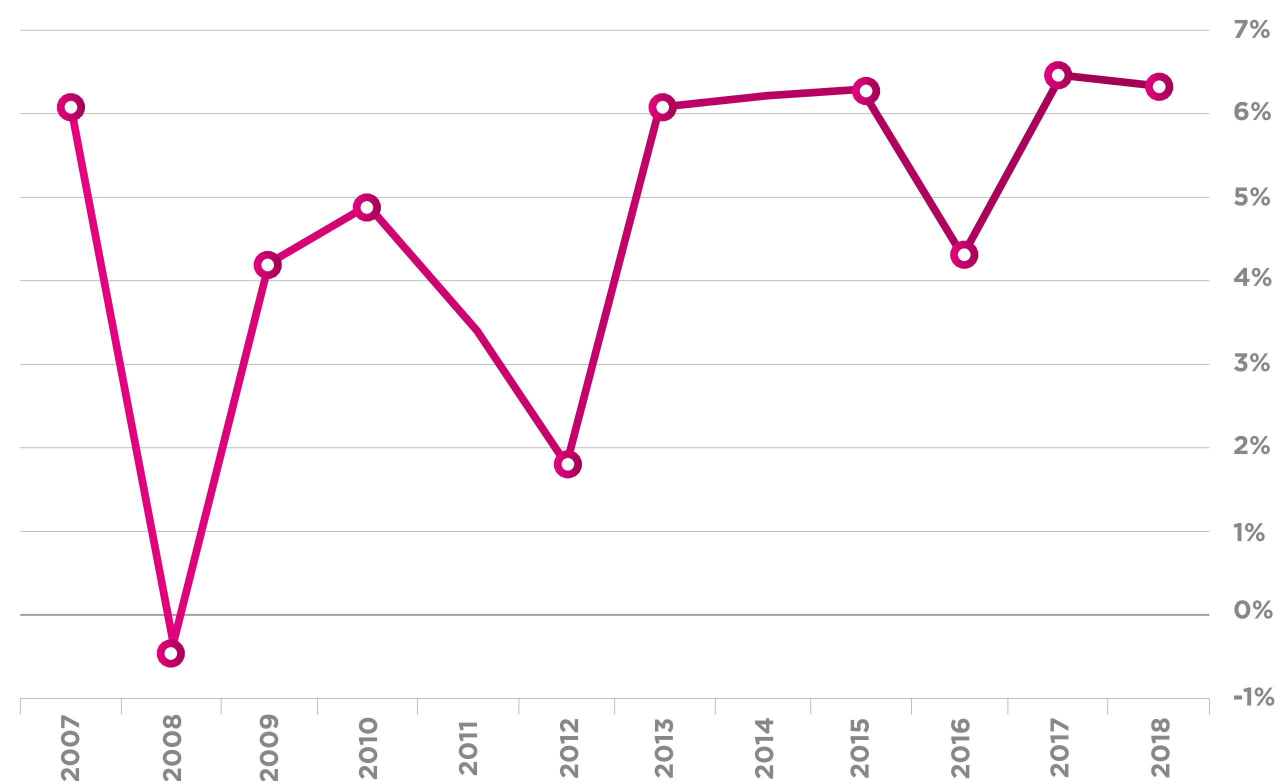
The following tables highlight a few characteristics of the sample, which, as expected, broadly match the characteristics of the overall capital-at-risk market in France. In fact, as shown below, the typical product within our capital-at-risk sample would be a five to ten-year autocallable product linked to the Eurostoxx 50 that offers conditional protection within a predefined fall of the underlying.

Histogram of annualised performances - Capital-at-Risk (2007-2018Q1)



87.7% of the products which matured between 2007 and 2018Q1 delivered a positive return at the end of the investment term (2 years on average), according to SRP data. The vast majority of the products (76%) returned 5% or more, while 8.3% of the analysed products delivered less than the initial capital. 4% returned the initial capital at the term of the investment.

Historical Performance of Capital-at-Risk Structured Products (2007 - 2018Q1)



Negatively performing products returned between -0.08% and -92% p.a., resulting in an average loss of -6.7% p.a. Clearly, the vast majority of negatively performing products (68%) were concentrated in the years between the global financial crash in 2008 and the European sovereign debt crisis. Negatively performing products in 2008 represented 45% of the analysed maturities for the respective year. The share of negatively performing products subsequently dropped to 34% in 2009, to remain between 20% and 30% for the next three years. A key factor here was the high entry levels of the underlying assets at the inception of the products, and which levels could not be recovered at the end of the investment terms. The share of negatively performing products compressed to slightly above 3% in both 2014 and 2015, but peaked at 10% at the end of 2016. Negatively performing products in 2017 accounted for 2.6%.

Since 2013 capital-at-risk products' yield returned to pre-crisis levels of slightly above 6%. Meanwhile, structured products typologies have shifted towards easily understandable payoffs, linked in their vast majority to indices, and able to better resist possible market drops and corrections. One reason behind these higher returns is the early redemption feature allowing to capture rising momentum in uncertain sideways moving markets. No less importantly, capital-at-risk products' capacity to defend the invested capital showed its value in 2016 when markets were affected by the Chinese stock market crash and the collapse in oil prices.

More recently, the market saw products designed to guarantee a return within a limited fall of the underlying (typically between -20% and -30%). The rationale behind the payoff is that even if the product has not been called, the investor is still entitled to his or her predefined coupon. This is particularly important in the case of long-term investment strategies and when the trade levels of indices could be relatively high.

Table 2.1: France: asset classes within the capital-at-risk

Asset Class	Number of products	Market share by volumes (%)	Average annualised return (%)
Equity (Single Index)	1399	78.31	6.30
Equity (Share Basket)	94	6.66	-0.36
Equity (Single Share)	93	1.96	7.74
Equity (Index Basket)	71	7.52	4.62
Credit	42	1.09	0.50
Hybrid	32	3.28	0.54
Fund	16	0.95	0.62
Commodities	5	0.08	4.81
Interest Rate	3	0.15	1.57
Equity (Share Basket), Equity (Single Index)	1		0.23
Grand Total	**1756**	**100**	**5.64**

Underlyings

Underlying	Number of products	Market share by volumes (%)	Average annualised return (%)
Eurostoxx 50	1038	63.68	6.10
Cac 40	136	7.85	5.94
Share Basket (Unspecified)	73	6.30	0.29
Euro iStoxx Equal Weight Constant 50	100	3.63	7.51
EPRA/NAREIT Developed Europe, EuroMTS, Eurostoxx 50	14	2.21	-1.05
Cac 40, Eurostoxx 50	23	1.86	7.20
CAC Large 60 Index	38	1.35	7.98
Eurostoxx Select Dividend 30	47	1.04	7.44
Cac 40, Eurostoxx 50, S&P 500	4	0.80	6.20
Eurostoxx 50, S&P 500	5	0.75	1.00
Eurostoxx 50, FTSE 100, Nikkei 225, Swiss Market Index	2	0.69	-1.52
Managed Funds (Unspecified)	12	0.63	1.44
S&P Europe 350	3	0.60	2.17
Bouygues	20	0.53	8.17
Nikkei 225	3	0.35	2.05
Stoxx Global Select Dividend 100	3	0.35	4.63
Other	235	7.40	
Grand Total	**1756**	**100**	

Single indices dominate our sample, with 1,038 products linked to the Eurostoxx 50 (EUR 27bn of sales) and 136 products were linked to the Cac 40 (EUR 43.4bn).

The post-crisis period was marked by a trend towards keeping the product simple as far as the payoff mechanism is concerned, and modifying the exposure by investing into optimised indices that reinvest dividends and subtract a flat rate percentage. The use of these proprietary equally-weighted indices has been the main innovation in the French market since 2015. This is due to the low interest rates context, which have made it difficult for issuers to find attractive products on the typical benchmark indices and regular equities.

In January 2017, the AMF introduced a categorisation of the indices, applying a fixed number of mechanisms to each index, depending on whether it is a commonly accepted benchmark or an index with embedded strategy. According to AMF's update, decrement indices started to be counted as

Table 2.2: France: payoffs within the capital-at-risk

Payoff types	Number of products	Market share by volumes (%)	Average annualised return (%)
Knock Out, Protected Tracker	957	52.82	6.94
Knock Out, Reverse Convertible	208	7.54	6.47
Protected Tracker	17	4.67	-0.21
Capped Call	23	3.89	3.16
Uncapped Call	28	3.38	2.29
Knock Out, Protected Tracker, Worst of Option	38	2.44	7.65
Exotic	17	2.24	-0.79
Knock Out, Reverse Convertible, Snowball	135	2.16	6.53
Knock Out, Protected Tracker, Cliquet	18	1.33	6.33
Credit Default	43	1.16	0.49
Knock Out, Protected Tracker, Lookback	19	1.09	6.87
Portfolio Insurance	14	0.72	1.08
Reverse Convertible	16	0.44	3.18
Knock Out, Ladder, Protected Tracker	11	0.31	8.38
Knock Out, Reverse Convertible, Worst of Option	16	0.17	-3.39
Other	196	15.65	
Grand Total	**1756**	**100**	**5.64**

one mechanism, while benchmarks, such as the Eurostoxx 50 and Cac 40, remained under the zero mechanism category. A two-mechanism rating was applied to more complex indices, which could not be classified within the two other categories.

Autocallable features (Knock Out) paired with conditional protection are heavily present in the table above. Autocallable products boosted performance significantly, since 1,359 products terminated earlier than scheduled through the activation of their knockout feature, returning an average 7.2% p.a. to investors.

Autocallable products and partially protected strategies (Knock-In barrier) have been and continue to be the dominant payoff in France, for their ability to exploit market rises while limiting their losses. It should be noted that autocallables do not require any market growth (measured from the initial strike date) to provide their target returns. With performance targets known in advance and important returns of 6 - 10% per year, the autocallable structures are perceived as one of the best structured solutions in the current environment.

Partially protected products offering participation in the performance of the underlying with or without cap (Capped Call, Uncapped Call) delivered below the average of our capital-at-risk sample. We should note that, in their vast majority they had struck before 2008 at a time when investors were more willing to seek an unlimited upside at the cost of a limited downside. This is why the typical product with this payoff used to protect an average 85% of the invested capital. Higher capital protection rate was,

Table 2.3: France: terms within the capital-at-risk

	Planned term			Actual term		
Years	**Number of products**	**Market share by volumes (%)**	**Average annualised return (%)**	**Number of products**	**Market share by volumes (%)**	**Average annualised return (%)**
<1 year	4	0.01	11.95	34	0.43	8.66
1	15	0.47	-15.72	895	38.48	7.14
2	68	5.88	2.99	273	17.85	5.91
3	144	11.12	5.58	199	12.22	4.89
4	100	9.09	3.44	94	7.86	3.43
5	290	14.96	5.36	109	7.63	2.08
6	216	17.87	5.65	60	8.55	2.27
7	7	0.51	6.02	4	0.22	4.83
8	554	27.40	6.53	61	4.77	0.51
9	7	0.41	6.49			
10	350	12.26	6.46	27	1.98	-3.37
>10 years	1	0.04	6.51			
Grand Total	**1756**	**42761.65**	**5.64**	**1756**	**42761.65**	**5.64**

generally, associated with lower participation in the upside. To the difference with products offering conditional protection through an embedded “knock-in” barrier (Protected Tracker), these structures have offered a real level of capital guarantee at maturity.

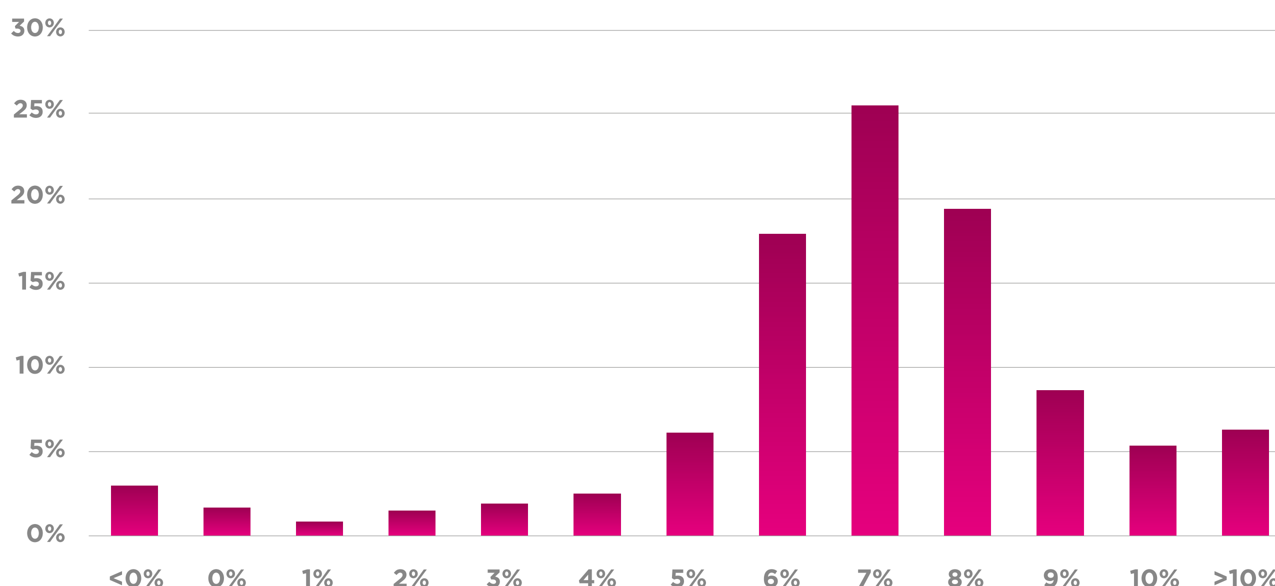
The effect of the autocallable feature on the length of investment is obvious in the table above. While only 19 products in the sample had a planned term of one year or less, 53% terminated on or before their first anniversary. What is more, only 11% of the products that had an initial eight-year maturity actually ran to term.

It also means that very short-term products of a year or less will have experienced strong annualised returns (7.1 % on average for the one-year term), as this category is strongly formed of products that matured early with a positive return.

Autocallables

- With performance targets and possible scenarios known in advance, autocallables fared well in sideways markets
- 62% of the early redemption events occurred on the first observation date, driving French autocallables ahead of the markets globally (ex-France)
- 73% of all autocallables recorded average annualised returns above 6%

Histogram of annualised performances - autocallables (2007-2018Q1)

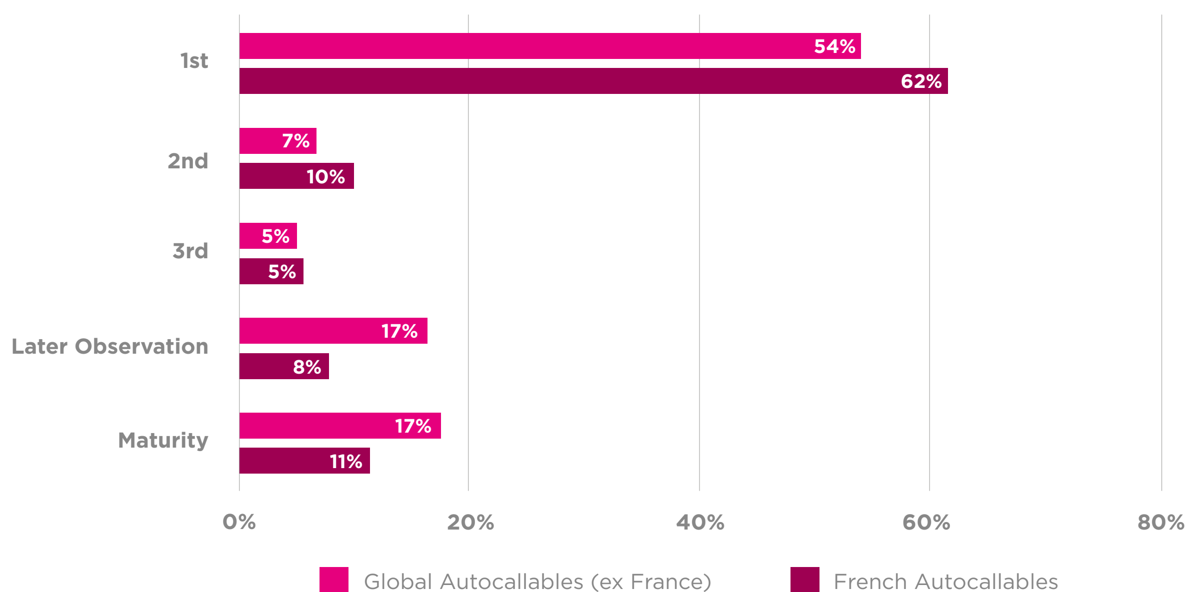


An impressive 73% of all "autocallable" products in the sample recorded annualised returns above 6%, with only 3% returning a negative performance, according to SRP data. The negatively performing products returned between -0.5% and -51.8% p.a., resulting in an average of -10.7% p.a.. Six percent of the products delivered a return above 10%.

Historically, early redemptions have tended to occur on the first observation date. In terms of their autocall frequency, early redemptions in France have been ahead of the markets globally (ex-France), with 62% of products registering an autocall event on the first observation date, as compared with 54% globally in the years following the global financial crisis. Only 11% of the autocallables in France reached organic maturity, compared to the 17% recorded globally.

It should be noted, however, that the investment term of autocallable products is generally long enough to allow the underlying to absorb possible unfavorable market cycles from the start and to give it time to benefit from a possible subsequent rise in the financial markets. For example, the rather sideways market in 2016 offered fewer preconditions for products being called, which was in contrast with the previous two years and in 2017, which all saw an important number of early redemptions contributing to the excellent performance of the market.

% of Autocallable Products Maturing Early, by Observation Date (2007-2018Q1)



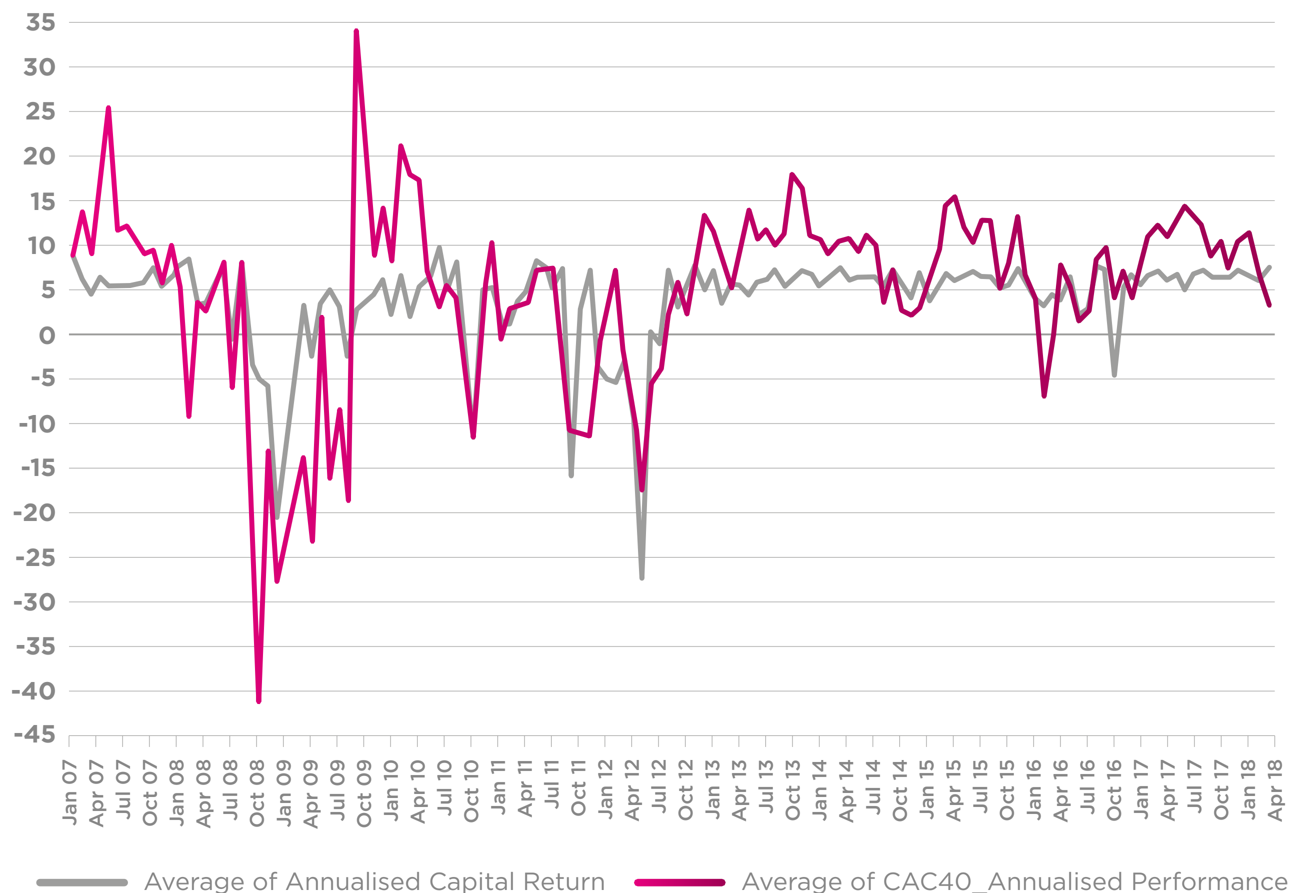
Historical performance of the Capital-at-risk sample vs. Cac 40

We observe a positive and high correlation between the performance of the equities markets and the performance of capital-at-risk structured products. However, we note two cases in which structured products tend to over perform markets. On the one hand, we note structured products' ability to moderate the exposure to excessive fluctuations in volatile markets (e.g. end of 2015 and beginning 2016). On the other hand, structured products were able to slightly outperform the markets, i.e. by capturing moderate bullish trends. In addition, some products are built to secure yield even during periods of market downfalls, which helps avoiding the uncertainties in sideways moving markets.

During the peak of the financial crisis, investment in both Cac 40 and in capital-at-risk structured products had negative returns with Cac 40 dominating the unfavorable side of the axis. Since mid-2009, structured products' returns have been positive but substantially below the returns of large capitalisation stocks. Indeed, what could be observed is that returns of structured products recovered much faster than those of Cac 40 while an investment in the French index would have experienced a broader range of peaks and troughs with returns above 30% at the end of the crisis. Therefore, assumed Cac 40 investments whould have been more volatile and more strongly affected by the global events than capital-at-risk structured products. Towards the end of the European Sovereign Debt crisis both types of investment brought negative returns as low as -25.00% for structured products. Since then, both Cac 40 and structured products returns experienced a similar positive trend of development with Cac 40 investments providing a bit higher earnings than structured products.

A dominant feature of the products issued in the post-crises period has been their ability to optimise the risk-return profile rather than to outperform the market they are linked to. With performance targets known in advance, the vast majority of products, generally do not aim to outperform the equity market (although being linked to equities). All this is in line with the typical autocallable product, which might offer a set return of say 6% to 10% per year as long as the index remains stable or exceeds its initial level on any anniversary date.

Annualised capital return of structured products compared with CAC40's performance for the same period



This will translate into an underperformance against equities when equities rise above the set return, though in the interest rate environment of the last few years 6% to 10% per year would be considered a very strong absolute return.

Strong outperformers of the equity benchmark adopted in this study were abundant in 2008, 2009, 2011 and early 2016. This makes us conclude that the timing of the investment is what mainly explains the outperformance against the equity benchmark.

Do Structured Products deliver what they promise?

The most common myth about structured products is that they do not deliver any returns. What we conclude from this report is that structured products delivered positive returns to investors in France over the last 10 years.

Despite the positive correlation between the performance of equities markets and structured products we observed the latter are able to outperform the markets, specifically when markets are moving sideways or are bullish.

Capital-protected products weathered both global financial and European sovereign debt crises, managing to preserve invested capital, albeit delivering progressively lower yield to investors due to the lower interest rate environment. Average returns have been falling progressively from 3.73% at the end of 2007 to hit a 0.95% bottom in 2012. The decrease was fully in line with falling long-term interest rates and French ten-year government bond yields, with structured products being affected by a stronger downwards dynamic. Since 2013, returns have stabilised, influenced by issuers' increased funding level. At the same time, interest rates remain low, making it extremely difficult to structure capital-protected products. Seeking to address the unfavorable market conditions, the market has shifted towards capital-at-risk products with conditional protection.

Capital-at-risk products were greatly affected by both global financial and European sovereign debt crises with a number of products returning less than the invested capital. Product offerings have since shifted towards more transparent and standardised payoffs, with the aim of being better understood by investors, and to withstand possible dips and corrections in the markets. Since 2013, returns reached pre-crisis levels, with capital-protected products showing their value when markets were affected by the Chinese stock market crash and the collapse in oil prices in 2016. Only 8.3% of the analysed products delivered less than the initial capital while 4% managed to preserve it at the end of the investment. Nearly 73% of the latter have had maturity dates between 2013 and 2016.

Products with an early redemption feature (a.k.a. Autocallables) or Knock-Outs have been performing well in the current environment of low interest rates and moderate volatility. Almost all of the top performers in the study were Autocallables and had their early maturity features triggered, usually after one year of investment (particularly in periods of strong equity rebounds).

We can conclude that structured products can secure or even enhance French investors' returns, compared with investing directly in the underlying. Above all, structured products' strength is in their ability to offer diversification and a varying level of capital protection, allowing investors to preserve capital or increase yield in sideways or falling markets in exchange for higher tail-risk.

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