Focus on...

Long Term Savings Performances: The 40 Year Track Record of Afer Funds

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Afer life insurance contract was launched in 1976 and celebrated its 40th anniversary in 2016. Afer stands for Association Française d'Epargne Retraite and is today a 730 thousands members strong organisation. 40 years represents a typical saving period for individuals who indeed start to save around 40 and die around 80. It is useful to measure the return of financial savings on such a long period, and the 40 years of Afer is an opportunity to look at the main effects, capitalization, risks, inflation and fees.

Long term performances are a major topic of research and has been addressed over the years by a number of researchers, among them Siegel (1992), Ibbotson, Gallais Hamonno and Dimson (2013, 2007, 2016). Consequences for the investors are analyzed by Campbell and Viceira (2005) and mentioned by Boulier and Lardic (1999). But most of these researchers deal with indices and do not consider products available to savers.

It is indeed exciting to look at an actual contract that savers could invest into rather than mere financial indices, notably because real life product bear fees paid to manage the money. Afer contract launched 40 years ago was very innovative at that time. The life contract was simply offering a guarantee on the amount saved and an annual bonus rate. The savers could invest when they wanted and the amount they wanted with very low annual fees, 0,475%, which prevailed over the all period. Funds (with no guarantee) were introduced 20 years later (Unités de Compte) , starting with Afer Sfer a balanced funds. Today, there are 15 funds in the range, of which 12 are invested in financial assets and open to subscriptions.

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In order to analyze the effect of long investment periods on performances, the track record of six funds were retropolated in a simple manner: their benchmark and additional over or under performance, measured on their actual life span, where kept over the whole 40 period. Results are obviously dependent on these assumptions, which mimic what has been actually observed during the recent years.

The goal of this study is to summaries the history of the Afer contract, to recall the main economic features of the period under consideration, then to to look at the performances of the various investment vehicles over this horizon. Different allocations between the funds and two standard options offered to savers to mitigate risk are considered.

I. History of the funds

The Afer contract was set up in 1976 between an association, Afer, and a life insurer, Abeille Vie.

The idea was to bring a flexible and cheap vehicle to invest for the longer run. The association and the assets managed in the sole product which was the guaranteed fund became very popular. The contract was very successful in gathering asset and famous for its bonus rate which became the reference for the French life market.

In February 1995 a non guaranteed fund, Afer Sfer was added to the contract which changed in nature, from mono vehicle to pluri vehicles. The new fund was predominantly invested in bonds in the first years but its reference allocation was changed in 1998 and 2002 to become a balanced fund investing between 60 and 70% in stocks. Afer Action Euro was then launched in July 1998 as an index fund, called Eurosfer at that time. It was changed to become an active euro equity fund in 2013. A new international equity fund was introduced in July 2004 in order to offer international exposure and diversification to the savers. It was formerly called Planisfer and evolved to become Afer Action Monde with several changes in allocations in 2011 and 2014. It is now a global equity fund. The last fund considered in this study

is Afer Diversifié Durable which was created in 2010 as an SRI fund invested 40% in European equities and 60% in bonds in euros. Fees on these funds were set at 0,6% which is very cheap in the market.

In total, the Afer range offers today two guaranteed funds, with the addition of Eurocroissance in June 2015, ten open funds, two funds closed to subscription and a real estate vehicle. We did not considered the new guaranteed fund and the other funds since their history was too short (less than 5 years) , or because they are no longer investable for savers. Finally the fund Afer Patrimoine was not considered because it was the merger of two funds and its present allocation was changed in 2015.

II. Retropolation method

The only fund with a forty years history is the guaranteed fund. In order to complete the data set, we decided to retropolate the values of the funds for which we have sufficient data. These 4 funds were presented in the previous section.

For each fund the actual performance during its life span was analyzed and compared to the benchmark of the fund at the dates considered (indeed for some funds, like Afer Sfer, the benchmarks have evolved through time). The over or under performance, called alpha, was used for the simulated values of the years between 1976 and before the fund was launched, then of course we kept the actual values of the fund. We simulated the values as value of the index, which we know plus a constant alpha. Note the net asset values of the funds are computed weekly which we had to account for when performing the analysis and comparisons.

The benchmark we decided to take is the last one in use. This would not really influence the results, but for Afer Sfer, since its first benchmark was essentially in bonds. This assumption was preferred to others because savers invest now in funds that correspond to these benchmarks. Finally we did not include any fluctuation around the benchmarks, thus altering somewhat the risk of the simulated funds. Indeed selecting a path for the tracking error could prove artificial.

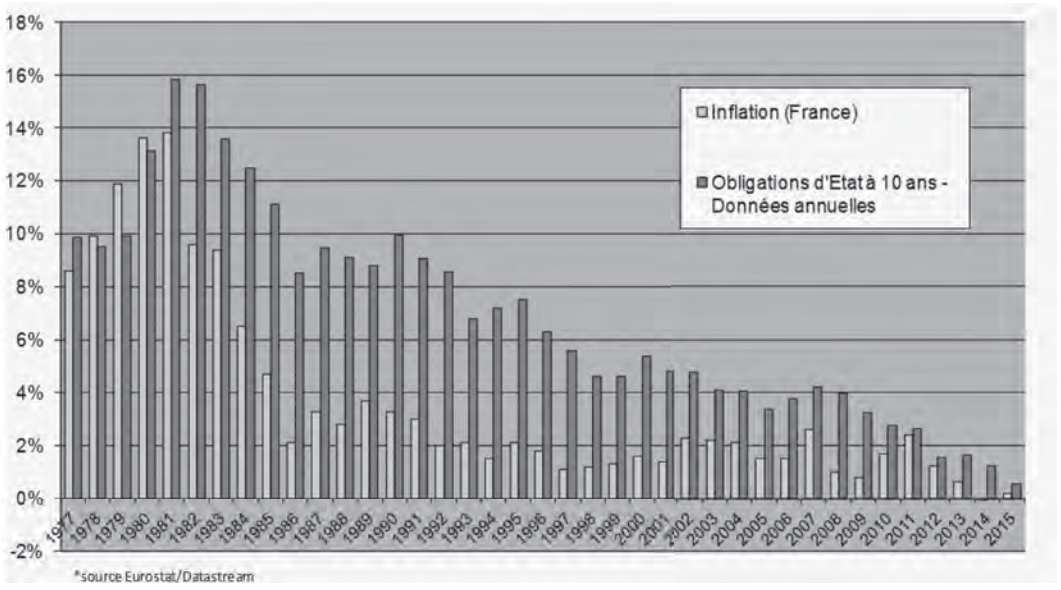
III. What happened between 1976 and 2016 ?

World has dramatically change over the 40 years, luckily peaceful in the developed world, which saw the meltdown of the USSR and the rise of China.

Double digit inflation was the main concern at the end the the 70s. It was triggered by two oil shocks but propagated by a number of vicious cycles in the western economies. Harsh and bold interest rate rise by Paul Volcker, chairman of the Fed progressively damped the inflation and the 80's were quite favorable for the financial markets. Figure 1 shows the long interest rate (OAT) and inflation in France and illustrates the main characteristic of that period, a constant decline of long term rate and inflation from around 15% towards almost zero at the end.

The emerging economies rebounded during the 90's after experiencing a lot of turmoils in the previous decade. In Europe the common market was put in place and the currency system morphed into the euro. In the US a sharp rise of interest rate in 1994 triggered a painful downturn of the bond market but the rise of the « New Economy « at the end of the decade was very favorable to the economy and the stock market.

Figure 1. French long term rate and inflation



The 21th started with the burst of the Internet bubble, followed by the Telecom bubble two years later. But low interest rates fueled a credit thrust and a strong growth in real estate. New transmission mechanisms by means of shadow banking and credit derivatives lead to the 2008 financial crisis, notably the bankruptcy of Lehman Brothers, and the following year the so called Great Recession. China came of age and the world commerce developed very quickly, bringing tension to natural resources and oil.

The rebound after the crisis has been slow and impaired by another crisis in the Eurozone generated by the swallowing government debt. The BRICs helped the developed world out of the crisis as well as strong government intervention in the US and Europe, to bailout a number of large banks, and thanks to heavy bond buying programs by the major Central Banks. This brought the interest rates to zero in most developed markets and supported solid stock markets performances.

Figure 2 presents performances of short and long term bond investment over the period compared to price index (inflation) and French stock market index, CAC40 since its creation and the former one before. In figure 3 annual performances of these investments are represented. The fall of short term returns are striking, longer term bond investments have benefited from yield compression all over the period. Volatility of stocks is visible, in particular the main crises, 1987, 1989, 2000 and 2008.

Figure 2. Performances of main French asset classes and inflation

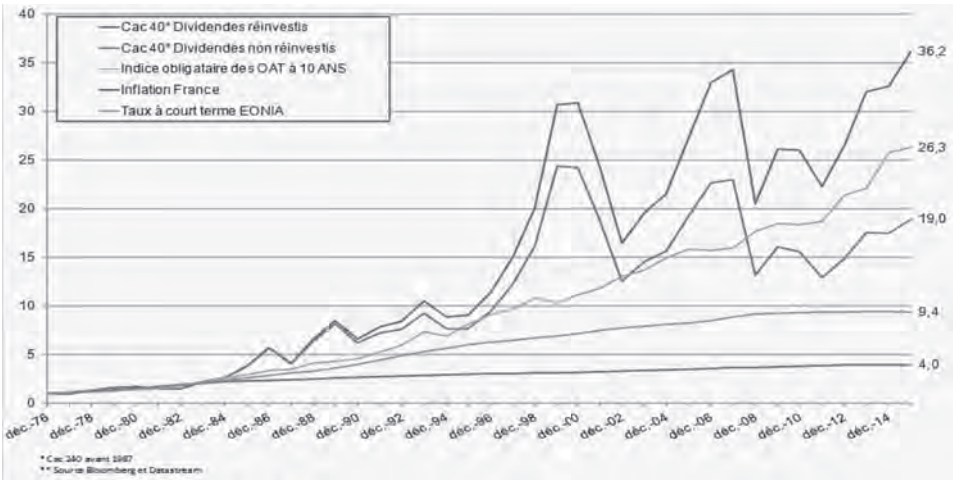
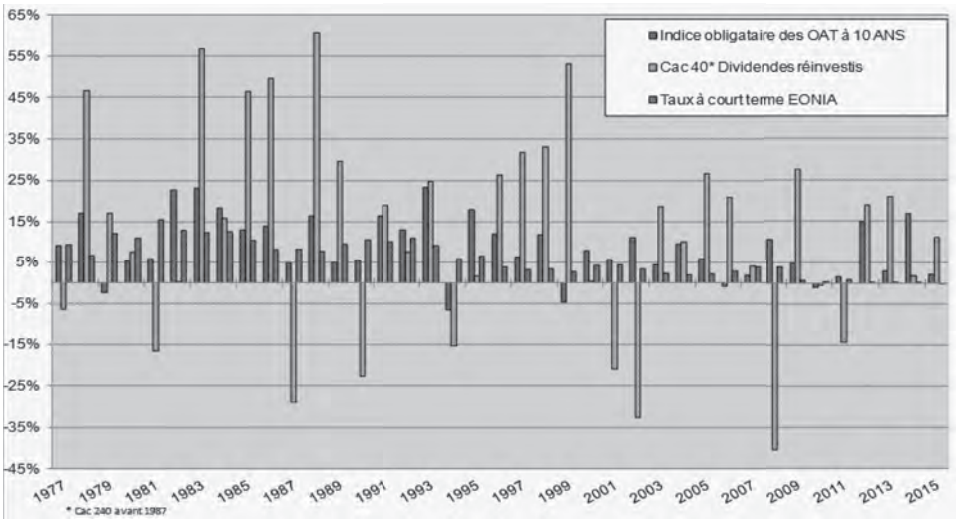


Figure 3. Annual performances of French stocks and short and long term bonds



Some comments about these figures. First of all the prices have more than quadrupled (actually 4,0) over the period which shows how devastating inflation can be. In fighting it, central bank have fueled an incredibly favorable tail wind for bonds. The bond index performed very well with a terminal value of 26,3 without any sort of fee, of course. Stocks performed also very well, about the double of bonds. Remarkably, the stock index without dividends would finish at 19, below the bond index. Dividends and their growth represents about half of the value added into stocks over that period.

IV. Fund performances

The initial fund, the guaranteed fund, performed very well over the period. The equivalent of one euro invested in this fund would become 17,8 at the end. It means the purchasing power of one euro invested became about 4,5! No wonder if the Afer contract has won a lot of awards during the period. Patience pays, and active management can be rewarded.

Investing the same one euro in Afer Sfer would have produced an even better result, 39.1 net of fees. It' s about 2,8% every year better than the guaranteed fund. Alpha of 1,5% contributes to this performance. It is striking to see that this balanced fund, invested only two thirds on average in stocks, does almost as well as the stock index (which does bear any fee). In addition the fund volatility is less than two third the stock index volatility. Sharpe ratio of Afer Sfer is indeed very attractive over that period, only beaten by the Afer Développement Durable by a few basis points.

Afer Actions Euro, formerly named Eurosfer, performed in line with its index which was selected to be the French Stock index before the creation of the euro. Given a small but positive alpha net of fees the funds would have performed better than the index: the final value of one euro invested in it is 33.5 slightly better than the index but less than Afer Sfer. Its volatility is higher than the one of Afer Sfer and the fund experienced the whole shocks of 1987 or 2008 market krachs.

Afer Actions Monde has been less successful than the other funds of the range, its underperformance was about 3,4%, for a number of reasons tied to the changes in its benchmark and poor bets over the period considered, which could be considered as too short to assess the value of an active global stock fund. One euro invested in this fund would have produced 15.6 euros thus less than the guaranteed fund and of course much less than its benchmark terminating at 60.5 euros (with no fees). This shows that taking risk does not necessarily result in better return than the index or than the guaranteed fund.

Finally Afer Diversifié Durable, the last fund considered, has yielded an alpha of 0,4%. Its Allocation to stocks is 40% thus less than Afer Sfer (60%) but this fund almost matched its performance over the whole period. This shows again how bonds have been good investments over that period. Indeed Afer Diversifié Durable has the best Sharpe ratio of the range, despite its consideration of extra financial factors that could have impacted negatively its return.

Figure 4. Performances of Afer guaranteed fund , simulated Afer Sfer , its benchmark and inflation

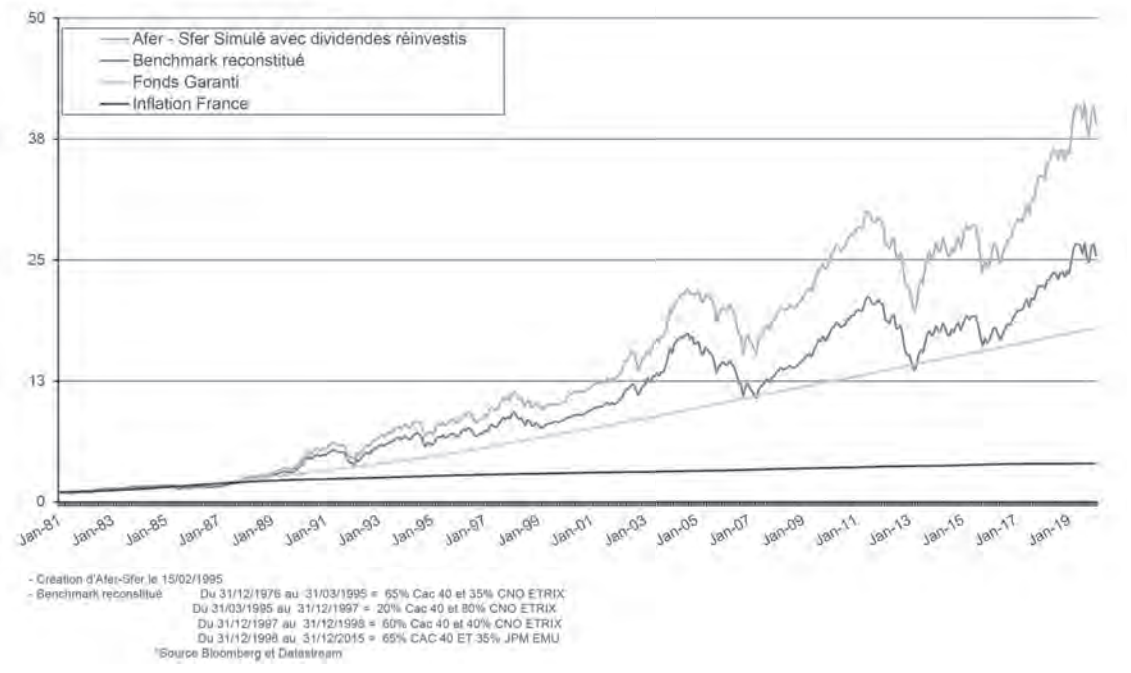


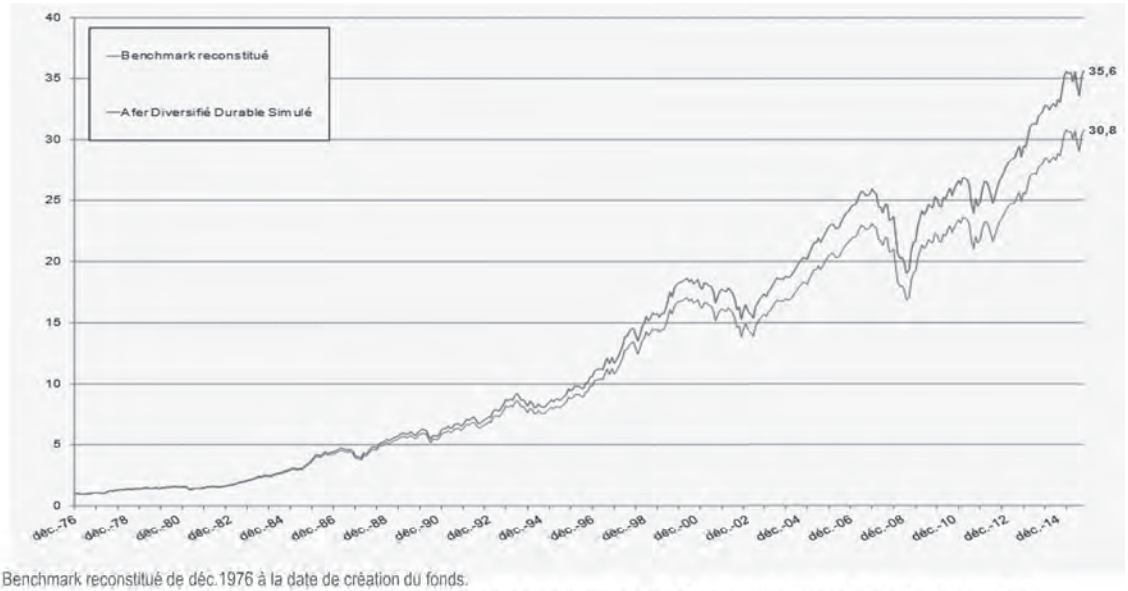
Figure 5. Performances of Afer guaranteed fund , simulated Afer Action Euro, its benchmark and inflation

Benchmark reconstitué de déc.1976 à la date de création du fonds.
La performance du fonds simulé provient de l'alpha calculé de la création du fonds jusqu'au 31-12-2015, ajouté au niveau du benchmark reconstitué.

Figure 6. Performances of simulated Afer Action Monde and its benchmark

Benchmark reconstitué de déc.1976 à la date de création du fonds.
La performance du fonds simulé provient de l'alpha calculé de la création du fonds jusqu'au 31-12-2015, ajouté au niveau du benchmark reconstitué.

Figure 7. Performances of simulated Afer Diversifié Durable and its benchmark



Benchmark reconstitué de déc.1976 à la date de création du fonds.
La performance du fonds simulé provient de l'alpha calculé de la création du fonds jusqu'au 31-12-2015, ajouté au niveau du benchmark reconstitué.

Table 1 summarizes the performances, nominal and real, volatility and Sharpe ratio of the fund considered on 10, 20, 30 and 40 years ending in 2016.

■ V. Performances of various allocations

In a first analysis we consider yearly rebalanced portfolios invested in the guaranteed fund and Afer Sfer. Four periods of 10, 20, 30 and 40 years ending all in 2016 are considered (see figure 8a, b, c and d). In the first period where the Great Recession occurred all coverage to about the same value, since the period was not favorable to equities. The second period on the other hand is quite good for equities thanks to the end of the century rally. The end result is positively skewed to Afer Sfer which more than tripled (3,38) over the 20 year whereas the guaranteed fund doubled (2,35). Of course volatility disturbs the values over the path, but in most cases, the allocations with Afer Sfer have beaten the guaranteed fund. In the two last period the investments are influenced by major shocks like in 1987 or 1989. Nevertheless the superiority of the balanced fund over the guaranteed fund brings a clear advantage to portfolios with large allocations to the former.

Similar conclusions could be drawn, if instead of investing only in Afer Sfer, the risky part of the portfolio was equally invested in the various funds of the range. Results of a Markowitz optimization with historical mean returns and covariance matrices (see Table 2) show that but for high values of return, a single fund, Afer Diversifié Durable is to be used. This is because it is the one that exhibit the highest Sharpe ratio. But such an information was not available ex-ante to savers. That is why we consider in the next section a number of useful risk mitigating strategies.

■ VI. Investing for the long run with a few options: regular investments, ratcheting performance, dynamisation of revenues.

In figure 9 a, b, c, d we show the results of a regular investment of one euro (or its equivalent) in the guaranteed fund or in Afer Sfer. Again, we consider the four same periods ending in 2016. On the first period investing only in the guaranteed fund (ending at 11.7 euros) has yielded less than Afer Sfer (ending at 13.6) despite the poor performances of equities. This shows the ex-post benefits of the smoothing mechanism that is entailed in regular investments. This phenomenon is visible on all periods and produces much less volatile outcomes. Although this result is directly linked to the fragmented investment it provides a very simple and efficient way to fight the volatility experienced by savers.

Two other interesting options are offered to savers. On one hand maintaining a maximum amount in the risky fund or on the other hand maintaining a maximum

Table 1. Historical performances over 10, 20, 30 and 40 years

		Afer-Sfer	Afer diversifié Durable	Afer Action Monde	Afer Action Euro
Annualized performance	10 ans	3,7%	4,4%	2,6%	1,2%
	20 ans	6,5%	6,6%	3,4%	5,7%
	30 ans	7,0%	7,5%	4,4%	9,7%
	40 ans	9,9%	9,6%	7,3%	9,4%
Annualized real performance	10 ans	2,5%	3,2%	1,4%	0,0%
	20 ans	5,0%	5,2%	2,0%	4,3%
	30 ans	5,2%	5,7%	2,6%	7,9%
	40 ans	6,2%	6,0%	3,7%	5,8%
Volatility	10 ans	13,7%	13,4%	18,3%	21,4%
	20 ans	13,7%	11,4%	20,2%	23,5%
	30 ans	16,4%	12,3%	19,5%	24,2%
	40 ans	17,0%	12,9%	18,9%	25,1%
Sharpe ratio	10 ans	0,18	0,23	0,07	0,00
	20 ans	0,31	0,39	0,06	0,15
	30 ans	0,16	0,25	0,00	0,22
	40 ans	0,23	0,28	0,07	0,14

Performance réelle annualisée : Performance annualisée - Inflation annualisée

Ratio de Sharpe: (Rendement Portefeuille - Rendement Actif sans risque)/ Volatilité portefeuille

Figure 8. Comparison of performances of various allocations over 10,29,30 and 40 years

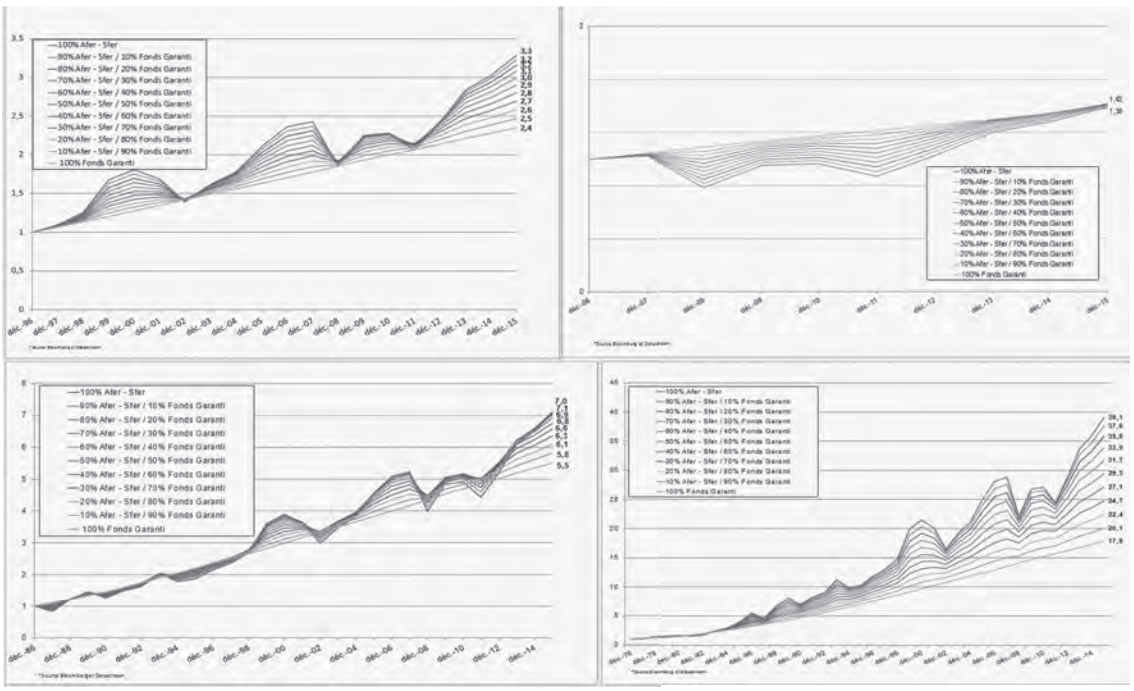


Table 2. Markowitz optimization with historical performances

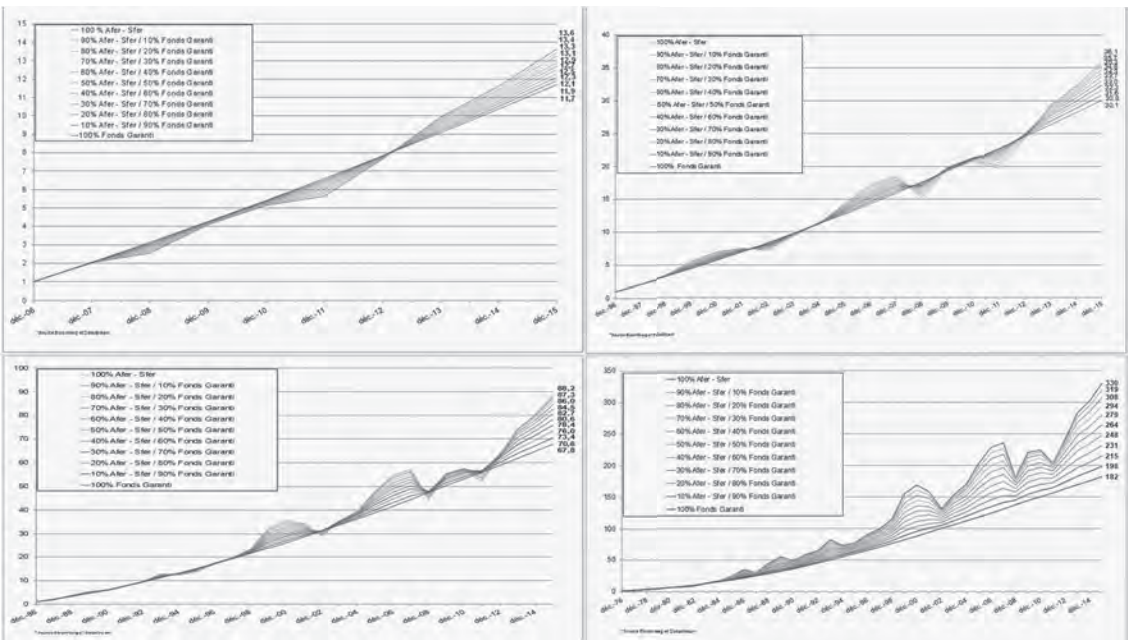
Rendement	7,7%	7,8%	7,9%	8,0%	8,1%	8,2%	8,3%	8,4%	8,5%	8,6%	8,7%
Volatilité annualisée	1,0%	1,1%	1,4%	1,8%	2,2%	2,6%	3,1%	3,5%	4,0%	4,4%	4,9%

Afer Sfer	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Afer Actions Euro	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Afer Actions Monde	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Afer Diversifié Durable	1%	6%	12%	17%	22%	27%	32%	37%	42%	48%	53%
Fonds garanti	99%	94%	88%	83%	78%	73%	68%	63%	58%	52%	47%
Total Pondération	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Rendement	8,8%	8,9%	9,0%	9,1%	9,2%	9,3%	9,4%	9,5%	9,6%	9,7%	9,8%
Volatilité annualisée	5,3%	5,8%	6,3%	6,7%	7,2%	7,7%	8,1%	8,6%	9,0%	10,3%	12,0%

Afer Sfer	0%	0%	0%	0%	0%	0%	0%	0%	0%	34%	77%
Afer Actions Euro	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Afer Actions Monde	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Afer Diversifié Durable	58%	63%	68%	73%	78%	84%	89%	94%	99%	66%	23%
Fonds garanti	42%	37%	32%	27%	22%	16%	11%	6%	1%	0%	0%
Total Pondération	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Figure 9. Performances of investments of one euro in various allocations ov r 10,20,30 and 40 years



amount in the guaranteed fund. The first, which we will call ratcheting, is useful when stocks rally and when one sells after the rally. Of course a systematic ratchet, say every year or after a certain level of performance (say 10%) will not always provide the best timing. The second, which we call dynamisation, reinvest the yearly bonus delivered by the guaranteed fund into a risky fund. The figure 10 a, b, c, d show the results of these two strategies.

On the first period the two options have beaten the two single funds. Ratcheting does slightly better than dynamization in the first period. In the second period of 20 years dynamization does slightly better than ratcheting (2,9 vs 2,7) and the two strategies finish between the guaranteed fund (2,4) and the balanced fund (3.3). On longer horizons the nature of the fund which is not limited prevails: in the ratcheting strategy the portfolio resemble more and more to a guaranteed fund, in the dynamization strategy the portfolio is predominantly invested in the risky fund and does slightly less (36,8 vs 39,2). Such an outcome is probably related to this special period where high bonus rates delivered by the guaranteed fund reinvested un a rising stock market made it favorable to the dynamization strategy.

VII. Conclusions

Before drawing any conclusions, it is useful to keep in mind some of the hypothesis done in the study. The performances of the risky funds of the Afer range were retropolated with the same benchmark and the same alpha than the one experienced during the actual life of the funds. Other hypotheses would have somewhat altered the outcomes of the study. Moreover the period is quite special because interest rate went down almost continuously starting around 15% and finishing near zero. The future will for sure be different !

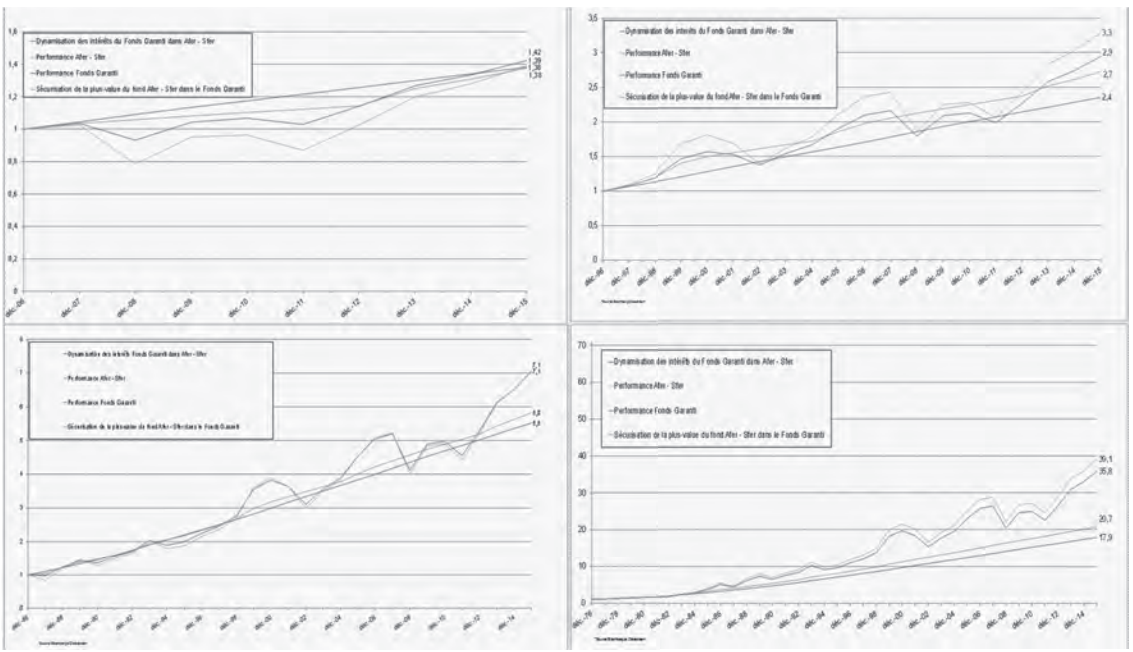
With a 40 years horizon, capitalization works remarkably. The guaranteed fund yield about 7.7% a year which is impressive. The balanced fund Afer Sfer have provided even better average return of 9.9 % and this 1.7% difference over the 40 years more than double the end value of the investment. The second very important effect to consider is related to inflation. The high inflation rate, double digit in the first years, have dramatically reduced the purchasing power of the invested money: with an average inflation rate of 3.6% over the period price have more than quadrupled.

Nevertheless the net return remains quite attractive for both investments.

Active management can bring a significant increase of value as well. Afer Sfer brought 1.4%, net of fees, on average during its life time, more than 20 years. The guaranteed fund itself, despite its very large size (about 47 bn euros in market value in 2016), provided a bonus rate net of fees on average 0.8% more than the coupon prevailing on the long term bond. Other funds were less successful, sometime much so. Also taxes must be taken into account, and life contracts in France have prove to be quite efficient from this standpoint.

The variability of the investment values are very high for equities and balanced funds invested predominantly

Figure 10. Comparison of performances of various risk mitigating strategies over 10,20,30 and 40 years



in equities. But a bond fund could have negative years, like in 1994. An additional advantage of the guaranteed fund is indeed that the accounting mechanism provides a smoother path for the customer. But the drawback is a less transparent valuation process and a need for capital for the insurer. Certainly product innovation would be welcome to damp the volatility of the riskier investments. Meanwhile, as this study shows, quite simple strategies can greatly enhance the comfort of investment into volatile funds, at least in this period.

In a nutshell, patience pays. Risk taking brings value to savers, who buy and hold, when their horizons exceed ten to fifteen years. And savers, like the members of Afer know, should beware of performances net of fees. On a final positive note, active portfolio management, offered a low fees, can bring sizable added values to savers. ■

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