BUND DER VERSICHERTEN
Offensiv für Versicherte

The following article is a translation of an article published in Versicherungswirtschaft 7/2011, by Axel Kleinlein, now Managing Director and Spokesman, Bund der Versicherten e. V. (BdV)

The "insurers' expense ratio" can mislead consumers

The "reduction-in-yield" metric is not suitable for recognising the true costs of a pension plan and can lead to incorrect results when comparing policies with different terms. However, a real expense ratio can provide the correct information as well as depict the high costs of receiving the pension.

Axel Kleinlein

At the start of the year, the industry presented a new metric for assessing the costs of a pension plan. It emphasised that a comparison with the costs of bank savings and unit-linked products would now be possible. However, analyses by math concepts have shown that this "insurers' expense ratio" may be misleading in certain cases: Expensive products appear to be low-cost, and low-cost products seem expensive. Expanding the insurers' proposal can lead to a "real expense ratio", though. This ratio allows us to compare the costs of insurance products, unit-linked and bank savings products. It can even be expanded to show the biometric costs and the costs of drawing the pension.

Even when introducing the Riester pension [a company pension scheme that is eligible for state subsidies in Germany], the legislator recognised the need to clarify the costs charged to the policies for consumers. This requirement was demonstrated in the German Age Certification Act (Alterszertifizierungsgesetz) which in Section 7 (1) requires clear information for the consumer on the costs charged when concluding a subsidised policy. Shortly after introducing the first subsidised policies, it became clear that the depiction of costs and their calculations are very complex and frequently incomprehensible.

Even for non-subsidised products, an amendment to the German Insurance Policy Act (Versicherungsvertragsgesetz, VVG) created a legal foundation for the requirement to ensure cost transparency: In line with the Decree on Information Duties (VVG-InfoV), information must be provided on the costs charged. However, even the costs stated in line with this Decree on Information Duties are very difficult for the consumer to understand. Therefore, the legislators appointed the Federal Ministry of Finance to find a solution for a transparent depiction of the costs of subsidised policies in a study. This study was presented to the public by ZEW in cooperation with Infas and IFF in June 2010[1].

Analysis of the "insurers' expense ratio"

Various cost approaches are discussed as part of this study. In January 2011, Allianz Life Insurance presented a new cost metric, which is referred to in this article as the "insurers' expense ratio". The German Insurance Association [Gesamtverband der Deutschen Versicherungswirtschaft] recommended that its other members also refer to such an expense ratio. Contrary to what the name suggests, however, this metric is in fact a "reduction-in-yield", not an expense ratio. The mathematical differences between the two are significant and are explained in detail in the ZEW study. Nevertheless, the industry chose the term "expense ratio" although, according to the ZEW study, this is confusing and consumers and agents who rely on the expense ratio can be drawn down the wrong path.

The “insurers’ expense ratio” intends to answer the following question:

What average yield reduction per year can I expect from the costs incurred by my policy?”

Apart from the actual costs charged, the following values are key to calculating this metric: Policy term, contribution payment term, interest rate applied before costs and, for unit-linked policies, the level of the calculated “kick back”. We have determined some “insurers’ expense ratios” for various policies as examples. We used the model assumptions shown in Table 1 and varied them using three different policy terms (duration 30, 35, 40 years). In Case 1, a cost structure that can be observed in the marketplace was assumed that shows, for example, in Case (1 a) an “insurers’ expense ratio” which exactly matches that of one of Allianz Leben’s products. Therefore, here, an interest rate of 4.8% before costs was assumed; in Case 2 it was 4.5%. For simplification purposes, it was assumed that the policies considered are calculated as capitalisation policies. Therefore, biometrics before the pension starts can be ignored. It was also assumed that yearly premiums were to be paid throughout and, therefore, other charges are not included here as a supplement during the year.

The “insurers’ expense ratios” are shown in Tables 2 and 3. These also contain the maturity payments at the end of the contractually agreed term, which are compared with the benefits that would be possible if no costs were charged. In addition, the eventuality was considered that the customer in Case (a) wants to use a deferral option such that the policy continues until age 65 and, in Case (c), exercises a withdrawal option such that the capital is actually withdrawn at 65. These results are shown in Tables 2 and 3.

At the end of the policy, after precisely 35 years, the situation is as follows:

In **Case 1**, the offer with the 40 year term has the lowest “insurers’ expense ratio”. However, in fact, the customer has paid the highest costs at €7,370 and receives the lowest maturity payment at €72,080.

In summary: Customers basing their decisions on the “insurers’ expense ratio” select the most expensive product here.

In **Case 2**, it is also the offer with the 40 year term and the highest annual costs that has the lowest “insurers’ expense ratio”. If the customer had selected the supposedly “most expensive” product, they would have saved just under €2,000 more in the end.

In summary: Customers basing their decisions on the “insurers’ expense ratio” select the most expensive product here, too.

These examples show that the “insurers’ expense ratio” varies greatly depending on the term of the policy. The following “rule of thumb” can be determined: The longer the policy term, the cheaper it appears thanks to the “insurers’ expense ratio”. Only customers who already know precisely when their pension will start and request quotations exclusively for this term can identify an expensive or low-cost product using the “insurers’ expense ratio”.

However, if the policyholders want to be flexible regarding the start date of their pension and assess quotations for different terms, they can never be sure that they can recognise a low-cost product from looking at the “insurers’ expense ratio”. In certain cases, the “insurers’ expense ratio” could even be misleading. It is, therefore, important to find an alternative cost metric that leads to results that enable consumers to identify low-cost products.

The “real expense ratio” as an alternative

Besides enabling accurate conclusions, one of the main objectives of an alternative cost metric is ensuring the comparability between insurance products, unit-linked products and home loan and

savings offers (the German “Bauspar” products). According to market participants, such comparability is already possible using a metric such as the “insurers’ expense ratio”. Therefore, it is assumed below that the “insurers’ expense ratio” can be calculated for all products. Under that assumption it is also possible to calculate which maturity payment a customer can expect at a particular policy term. At the same time, knowing the interest rate before costs makes it possible to calculate the maturity payment that could be expected if the policy was free of charge. Finally, it can be determined by what share the cost-free amount is reduced by the costs, which is the so-called “real expense ratio”.

Extension to the costs of drawing down the pension

This expense ratio then answers the following question:

What benefit reduction can I expect from the costs incurred by my policy?”

In mathematical terms, the “real expense ratio” is shown as follows for the stated “insurers’ expense ratio”: The contractual term is n, the premium payment term is m, the interest rate before costs is i, the premium in the j-th year is B_j and the “insurers’ expense ratio” is VK; this calculates the “real expense ratio” as follows (see formula 1):

$$KQ = 1 - \frac{\sum_{j=1}^{m} B_j \cdot (1+i-VK)^{n-j+1}}{\sum_{j=1}^{m} B_j \cdot (1+i)^{n-j+1}}$$

This metric precisely matches the “expense ratio” referred to in the ZEW analysis[2]. The “real expense ratios” for the model cases are shown in Tables 2 and 3. As you can see, the “real expense ratios” are high if the policy has a comparatively low maturity payment. Vice versa, a low “real expense ratio” indicates a high maturity payment. Thus, the “real expense ratio” finally enables the performance of a product to be described.

Critics have repeatedly pointed to the fact that the cost metrics discussed so far only cover the costs during the savings phase before the pension starts. If you assume a cost metric that describes the benefit reduction due to costs, this can also be transferred to the pension level itself. In that case, the costs of receiving the pension are fully covered as well.

The first step is calculating which pension level could be expected if the policy had no charges, i.e. we are looking at the capital that would be achieved without the application of costs[3]. In order to include the so-called biometric costs, mortality tables are used to calculate the cost-free pension without applying any safety supplement. These calculations are based on the relevant mortality table provided in the DAV04R set as well as the mortality table developed by math concepts. In addition, the maximum interest rate that can be guaranteed is used for the pension[4]. The cost-free pension thus calculated is then compared with the actual pension using the model calculation. The reduction in this pension is then the “real expense ratio including pension costs”. This KQ metric is shown as follows (see Formula 2):

$$KQ = 1 - \frac{\textit{Actual guaranteed pension}}{\textit{Cost-free pension}}$$

For the sample products in Case 1, in order to calculate the actual pension, the capital saved “after costs” is assumed and the DAV04R-Aggr. 1st degree mortality tables are used; the costs to receive the pension are set at 1.5% of the pension. The results are shown in Table 4.

For example, the following can be shown in summary for Case (1b):

- Due to acquisition and administrative costs before the pension starts, the benefit falls by 19.8% (compared with cost-free benefits).
- Due to biometric and administration costs when the pension starts, the benefit falls by a further 17.2% (compared with cost-free benefits).
- The total costs reduce the pension by 37% (compared with the cost-free pension), i.e. the policy has a total expense ratio of 37%.

This cost metric can also be transferred to unit-linked and bank savings products if pension levels have actually already been indicated for these products[5]. Experience shows, however, that the pension levels are rarely shown for bank savings and unit-linked products. The legislators should assess if they are okay with this, as not indicating the pension level also means not showing the complete costs the customers will have to bear while receiving the pension.

Notes

1 See www.zew.de/de/publikationen/publikation. php3?action=detail&nr=5859 for the version dated 28/7/2010.

2 See definition of the expense ratio in the ZEW analysis p. 43 in the version dated 28/7/2010.

3 To take into account the actually agreed policies, a pension guarantee period of 10 years is assumed.

4 Currently 2.25 per cent. Alternatively, the cost-free interest rate could also be applied. This would, however, imply that the “constant yield rate” is given as the surplus participation form. However, this is usually not the case.

5 When calculating the expense ratios for comparison, it must be ensured that the identical 2nd degree table is used.

Table 1 **Sample calculations**

A 30 year old customer wants to take out a policy that becomes due when they are 65, with an annual premium of €1,000.

Case 1 – policy with costs charged in advance: 3.8% costs are deducted from each premium received plus 0.5% of the balance is charged as annual costs. In addition, 4% of the contribution total is applied as acquisition costs and charged to the policy over 5 years (via advance cost charging). The policy is offered with a term of
(1a) 30 years,
(1b) 35 years, or
(1c) 40 years.

Case 2 – fixed annual costs: For each tariff, a fixed annual amount is charged; no other costs are incurred on top of that. Three variations:
(2a): costs amount to 14% of the annual contribution, i.e. €140 p.a. (30 year term)
(2b): costs amount to 15% of the annual contribution, i.e. €150 p.a. (35 year term)
(2a): costs amount to 16% of the annual contribution, i.e. €160 p.a. (40 year term)

Table 2

Case 1: Standardised cost structure (3.8% of contribution, 0.5% of contract balance); acquisition costs (4% contractual premium total) as advance cost charge over 5 years; interest before costs 4.8%

	(1a) 30 year term	**(1b) 35 year term**	**(1c) 40 year term**
Maturity payment at the end of the term	EUR 55,271	EUR 72,884	EUR 94,436
Cost-free maturity payment at the end of the term	EUR 67,283	EUR 90,825	EUR 120,587
"Insurers' expense ratio"	1.11%	1.04%	0.99%
"Real expense ratio" during savings period	17.9%	19.8%	21.7%

Contract balance after 35 years:

Capital saved after 35 years EUR 73,688	EUR 72,884	EUR 72,080	EUR 68,093
Total costs after 35 years	EUR 6,760	EUR 7,170	EUR 7,370

Table 3

Case 2: Only varying amounts of fixed costs are charged; interest rate before costs: 4.0%

	(2a) 30 year term costs p.a.: EUR 140	**(2b) 35 year term costs p.a.: EUR 150**	**(2c) 40 year term costs p.a.: EUR 160**
Maturity payment at the end of the term	EUR 54,827	EUR 72,389	EUR 93,951
Cost-free maturity payment at the end of the term	EUR 63,752	EUR 85,164	EUR 111,847
“Insurers’ expense ratio”	0.9%	0.8%	0.7%
“Real expense ratio” during savings period	14.0%	15.0%	16.0%

Contract balance after 35 years:

Capital saved after 35 years	EUR 73,241	EUR 72,389	EUR 71,538
Total costs after 35 years	EUR 4,900	EUR 5,250	EUR 5,600

Table 4

Case 1: Standardised cost structure (3.8% of contribution, 0.5% of contract balance); acquisition costs (4% contractual premium total) as advance cost charge over 5 years; interest before costs 4.8%

	(1a) 30 year term	**(1b) 35 year term**	**(1c) 40 year term**
Pension level at the end of the term (according to DAV04R Aggr. 1st degree, costs: 1.5% of pension)	EUR 2,258	EUR 3,272	EUR 4,747
Cost-free pension level at the end of the term (according to mortality table mc2011/DAV04R-2nd degree)	EUR 3,415/3,162	EUR 5,190/4,794	EUR 7,919/7,306
"Insurers' expense ratio"	1.11%	1.04%	0.99%
"Real expense ratio" including pension draw-down according to mortality table mc2011	33.9%	37%	40.1%
"Real expense ratio" including pension draw-down according to mortality table DAV04R-2nd degree	28.59%	31.75%	35.03%

Contract balance after 35 years:

Capital saved after 35 years	EUR 73,688	EUR 72,884	EUR 72,080
Actual pension level offered (according to DAV04R-Aggr. 1st degree, costs: 1.5% of pension).	EUR 3,308	EUR 3,272	EUR 3,236
Cost-free pension level (according to mortality table mc2011/DAV04R-2nd degree)		EUR 5,190/4,794	