Introduction

“The Korean life reinsurance market is strategic for SCOR Global Life: it is one of our main market in Asia in terms of ceded life premiums.

In South Korea, innovation is a key issue for life reinsurers as the market is close to being saturated, with a life insurance penetration rate of 90%. SCOR Global Life grasped these market requirements very early and is providing its clients with new products.

In this Newsletter, we focus on one such product: a non-selective life insurance policy. Guaranteed issue insurance is a new product to the Korean Market. Due to our international experience and actuarial expertise, we have been able to successfully introduce and customize it there.

This non-selective product has filled a gap in the Korean life insurance market.

Your usual SCOR Global Life contact will be pleased to provide any additional information that you may require.”

Gilles Meyer,
Chief Executive
SCOR Global Life SE
The Korean life insurance market

General description of the Korean market
Korea is an important life insurance market for SCOR Global Life: it is the world's seventh largest market in terms of premiums, with an estimated volume of 61 trillion Won (around €33 billion1) at the end of 2005. Today, around 90% of Korean households have at least one life insurance policy and the average per household is 4.4 policies. The Korean market is growing fast: premium volumes have risen by 74.3% over the last ten years and the percentage of households with at least one life policy has gone from 57.8% to 89.2% over the same period.

An evolving market
The Korean life insurance market has undergone a number of changes over the last twenty years. Before the 1990s, the most popular products were educational income and short-term savings products. The success of these two products was largely due to government policy at the time, which promoted education for young people and encouraged households to save more. Then, during the 1990s, as savings had reached high levels, new products such as personal accident insurance and health care products (notably in the event of cancer) became even more popular with Koreans. Since the year 2000, variable rate savings products have seen solid growth, helped by a bullish stock market. However, following a string of lawsuits by policyholders who lost part of their investment, insurers have become more reluctant to sell this type of product. As a result, the strategy of most Korean insurers at the moment is a return to products offering more traditional forms of protection.

Current position and developments in the Korean life market
The life insurance market at the end of 2008 makes up 1/5th of total risk capital within the Korean insurance market and 18% of all claims paid. Of recorded deaths, 8% are accidental, with the remaining 92% due to other factors, notably disease. Within the life insurance market, the proportion of “whole life” policies has been stable for many years at around 20% to 30%. To revitalise the development of these products, insurers are currently engaged in an advertising campaign seeking to increase the sums insured under these policies, in anticipation of a sharp rise in household needs in the future. At present, the average sum insured is 30 million Won (around €16,1001) and this could increase substantially to an average of 100 million Won (around €53,7001) over the next few years.

Another factor driving growth in the Korean market is increasing life expectancy. Korea is experiencing one of the highest growth rates for life expectancy (currently around 77 years) among mature societies. At the moment, public provision for Korean pensioners is inadequate as compared the needs: it is estimated that the system will need an additional 130 million Won (around €69,9001) per couple to meet these requirements. Private insurance therefore has a key role to play in supplementing the retirement income of Korean households.

A changing market for reinsurers
The demand for reinsurance in the Korean market has been evolving for several years. Loss ratios on traditional life insurance products covering all causes of death are now quite low. Insurance companies are fairly confident as to the future trend in this ratio as they have built up considerable experience over the years. For this reason, each year Korean insurers have been increasing their retentions for this type of product, squeezing the volume of business available to reinsurers. SCOR Global Life, a leading reinsurer in the Korean market
SCOR Global Life was quick to understand and anticipate the new developments in the Korean reinsurance market and moved early to diversify its reinsurance products. Thus SCOR Global Life developed the first long-term care insurance product on the market. The same idea was behind our creation of the first non-selective life insurance product in 2005, in partnership with several Korean insurers.
Non-selective life insurance in Korea: description and implementation

The Asian context
In 2005, policies with no medical selection had not really been developed in the north Asian market, although they first appeared in Japan in 2001. Until then, there has never been any non-selective product in Korea. Given the new development needs for reinsurers on the Korean market, SCOR Global Life worked with several Korean insurers to develop the first non-selective life product in Korea. **Four players in the Korean life insurance market decided to sell the product, making its launch a great success.**

- company 1: product launch in August 2006, around 88,000 policies sold by end-October 2008;
- company 2: product launch in late December 2006, around 22,000 policies sold by end-October 2008;
- company 3: product launch in July 2007;

General description of the product
The product is designed to pay out a capital sum on death to cover funeral expenses. The main features of the product are as follows:

- no medical selection on entry;
- maximum sum insured: 20 million Won (around €10,700);
- in some cases, the maximum sum insured has been increased to 30 million Won (around €16,100);
- subscription age: 50-80;
- type of cover: whole life or term (10 or 20 years);
- distribution channels: telemarketing, brokers and agents (sales ladies). Business through agents is tightly controlled: if there are too many deaths in an agent’s portfolio, the agent has to pay back all or part of his/her commissions.

As there is no medical selection when the policy is issued, there is a very high anti-selection risk, particularly for policyholders aged 50 to 60. For this age range, policies with medical selection are significantly cheaper than a non-selective policy, even if the selection is simplified. As a result, there are more policyholders with an aggravated risk of mortality in the portfolio of a non-selective product, particularly in the 50-60 age group. To limit this anti-selection effect, **the product terms and conditions include a two-year qualifying period for non-accidental deaths.**

However, in the event of a non-accidental death in the first two years of the policy, the premiums already paid by the policyholder are returned to the beneficiary. In contrast, in the event of accidental death, cover takes effect from day one and the payout may actually be doubled if there is a rider in case of accident.

Product pricing
Concerning the pricing of the product, the main difficulty was the lack of long-term mortality records for such products in Asia. Accordingly, we have relied on two studies published on similar products (guaranteed acceptance life insurance): the first one by the SOA (Society of Actuaries) in the US market and the second one by the CMI (Continuous Mortality Investigation) in the UK.

In order to adjust the findings of these studies for the Korean market, we used a relational method, which identifies a mathematical relationship between two populations. In our case, we compared the mortality of the insured population with the mortality of the general population over the same period. For each gender we derived an equation of the form:

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\text{logit}(q_x, \text{ins pop}) = f[\text{logit}(q_x, \text{gen pop})]
\]

where

- \(\text{logit}(x) = \ln \frac{x}{1-x}\) is the “logit” function, which is commonly used when studying population mortality. The main advantage is that the logit function can take any value in the interval \([-\infty;+\infty]\) while mortality rates are contained in the interval \([0;1]\);
- \(q_x, \text{ins pop}\) corresponds to the mortality rate in the insured population;
- \(q_x, \text{gen pop}\) corresponds to the mortality rate in the general population over the same period.
- \(f\) is the mathematical function we are seeking to determine, and shows the relationship between the mortality of the two populations.
Having determined \( f \), we calculated the mortality rates to be used in the new non-selective product in Korea. The chart below shows the anti-selection effect for this product: it illustrates the relative risk of those insured without medical selection compared to the reference mortality table used in the Korean market for death products (5th table, one table per gender).

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\text{Qx Korean "Non Selective Product" / Qx 5th Table}
\]

We find that the younger the policyholder, the higher the ratio, and therefore the greater the divergence between the mortality rates of the non-selective product and the market reference rates. **We have therefore factored this anti-selection effect for younger policyholders into our premiums.**

**Reinsurance and monitoring the product**

The product is reinsured on a 50% quota share basis. There are strict rules to avoid deviations from predicted mortality when underwriting new generations. SCOR Global Life makes an explicit agreement each quarter to continue to reinsure the new generations of business. To this end, the ceding company provides detailed information about all new policyholders at the end of each quarter. This information includes:

- new business by distribution channel;
- new business by age of policyholder;
- new business by initial sum insured;
- new business by product type (whole Life or Term);
- claims occurred over the last three months.

**The precautionary approach of risk monitoring should avoid any major deviation in mortality within the portfolio.**

**Initial trends**

Despite the limited available records, the Centre for Research and Development of Longevity & Mortality Insurance (CERDALM) has already carried out two mortality studies. Although it is hard to draw any precise conclusions about these portfolios at this early stage, we have observed the following:

- the anti-selection effect is greater among younger policyholders, as predicted by our databases;
- mortality is higher when the sums insured are greater;
- mortality is higher than our current database forecasts. This difference is in line with our expectations as the databases were created without factoring in excess mortality in the first two years of the policy. The sum insured is only paid out for accidental deaths in this period;
- no clear trend for accidental deaths. Although the first study suggested higher-than-average accidental mortality than in the general population, this was not confirmed by the second study. Nevertheless, we are carefully monitoring accidental death rates in these portfolios.

These initial results need to be treated with caution for the time being as the data history is relatively short. Except for the 1st company, we are indeed still in the 2 years “waiting period” for cover in case of death following illness. However, the historical background of this company is only 2 years and a half, which to date is not sufficient to draw final conclusions.

**Conclusion**

This non-selective policy has been a real success on the Korean market and new markets are now interested in developing a similar product.

As a result, the SCOR Group is now seen as a leading player in the Korean reinsurance market, combining innovation with acknowledged technical expertise.