
SHAVET

The Insurance Sector and the Financial Markets

There is little doubt that the insurance sector and the financial markets are interrelated. On the demand side the insurance and pension sector looms large in the investment of all types of financial assets. Furthermore, as in other sectors, a good number of companies seek investors who contribute towards the development of their activity. In this way they capture funds of very diverse origins and by means of very varied instruments, all normally lumped together under the umbrella term of «financial markets». This relationship is growing as financial markets become broader in their scope and better able to cater for the growing and increasingly varied need of channelling financial resources.

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Financial instruments allow investors to trade off the possibility of obtaining a yield against the risk of the business as a whole. This risk is assumed totally by the shareholders and with certain limitations in the case of the creditors. Alongside both groups the investors in hybrid financial instruments also take on risks of the business as a whole, albeit in a more limited way than shareholders though not as limited as the creditors. But the common denominator of all three groups is that they bear risks corresponding to the whole business. If, for example, the company in question makes a very effective risk selection, with a concomitant low claims ratio, but runs into trouble with its investments or another type of problem, then there will be no way of extricating the two factors. Both shareholders and creditors will therefore be exposed to the whole business and not only to the technical, financial or other outcomes. Another example of blurring risks could be an insurer working with its own high-yield book which then acquires another overrated book. Then the investors in shares, bonds or hybrids will not normally be able to hive off one business from the other and will therefore be exposed to the risk as a whole.

Although the issue of financial products implies a certain transfer of risks (mainly financial risks), the financial markets have traditionally provided insurers

with a financing outlet. For the transfer of inherent insurance risks, however, the most habitual method is reinsurance. Reinsurance is more often taken up in non-life insurance than in life insurance, though it is also sometimes used to cover certain risks that might turn out to be excessive for the company concerned.

Securitisation

Securitisation notes were first issued for financing of mortgage pools in the seventies of last century. Securitisation was therefore born as a financial formula for transforming unliquid assets into other more easily negotiable instruments. Although securitisation has spread much further afield since, mortgages still account for the lion's share. Furthermore, the financing and transformation function is still in most cases the main attraction of these transactions.

In the eighties increasing use came to be made of credit-card backed securities and other issue backing assets. The trawl then widened even further until practically any payment-collection right became eligible for securitisation. There have even been cases of securitisations of securitisation notes.

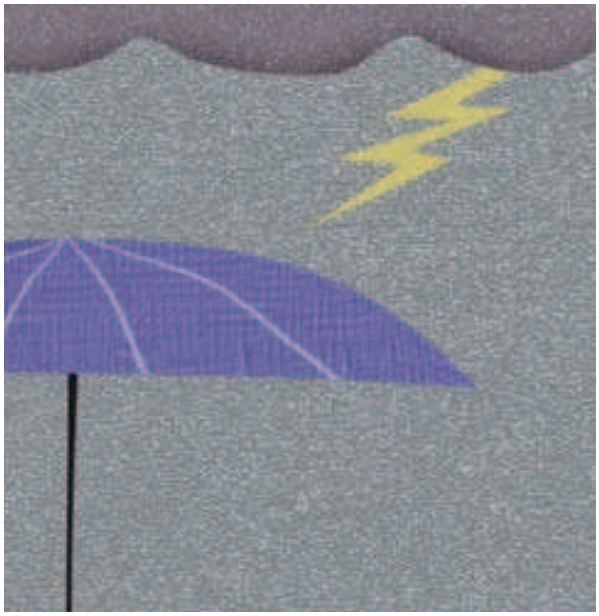
In the insurance world the development of securitisation has run parallel to the alternative risk transfer methods. The first transactions were carried out for the management of catastrophic risks, as we will see later, spreading thereafter to other risks.

Securitisation and the Insurance and Pensions Sector

(Re)insurers have played a key role in securitisation from the word go but mainly as investors. Clearly there are very diverse *modus operandi* in the sector and also different actors with different investment strategies. It is therefore possible to find companies that do not take up assets of this type while others have a substantial percentage of their investments placed in securitisation notes. This patchiness can be brought into relation with the company's main activity, according to whether it is non-life or life and/or saving. In general companies that hold long term liabilities and have relatively stable liquidity needs are potential investors in assets of this type. Companies trading in life and saving are therefore possible participants, being able to place not only the funds corresponding to the spread-based products they market but also fee-based products.

Interest in investments of this type also varies according to the geographical area the company trades in. In general, where there is a more fully developed securitisation market, insurers are more prone to take part as investors. In the United States or United Kingdom, for example, some companies place more than one quarter of their investments in securitisation notes.

As well as the sheer size of the market, the participation of the insurance and pensions sector as investor in securitisation can also be observed in terms of the geographical area the company trades in. The regulatory framework plays a key role here: legislation in some areas bans or strictly limits acquisition by insurers of assets of this type. Obviously, the more lenient is the regulation, the more accessible will be these investments to insurers and hence the likelihood of their taking them up will be greater. It should also be borne in mind here that the flexibility of the legislation in any given area affects the whole financial sector across the board in that area. The regulatory flexibility in terms of investors acquiring investments of this type will vary directly with the securitisation possibilities of the originators of those risks. This works both ways. It is even possible that foreign participants might turn to such lenient markets to place their investments. It is crucial here to take onboard the potential positive influence of the new



regulatory framework of the European Economic Area under the framework directive approved in April 2009 known as Solvency II, to be dealt with later.

On the other hand, the sector has tended to participate more actively as originators in recent years. The use of specific securitisation structures of the (re)insurance sector began in the late nineties as a method for increasing the reinsurance capacity of catastrophic risks by means of «catastrophe bonds» or CATs. These bonds are considered to be securitisations of pure risk since their main object is generally similar to non-proportional reinsurance: if the foreseen event(s) should occur this will generate a loss to be assumed by the bond investors. The size of the loss assumed by the investors usually depends on the intensity of the event covered, so the effect is indeed analogous to reinsurance.

CATs gave rise to a form of securitisation that comes up with a response to the sector's specific problems. Unlike other non-insurance securitisations, the remit of CATs is not specifically to raise finance but rather to transfer risks to the financial markets. This is especially important in the coverage of catastrophic risks, which is heavily influenced by the reinsurers' cycles and capacity. Although CATs can at first sight be considered to be a reinsurance alternative, therefore, in practice they have been used by insurers and reinsurers to cater for certain risks whose (retro)cession would be trickier.

Although CATs are used to securitise characteristic non-life risks, they have also spread into the life sector. In this area there have been several issues by reinsurers in an attempt to securitise the risk of catastrophe mortality, as explained below. These transactions are much less frequent than the non-life ones, above all due to the smaller size of the market and the infrequent recent occurrence of mortality that could be considered to be catastrophic in areas where the population has death coverage. Other factors that need to be taken into account here are the difficulty of ascertaining the materialisation of the risk, possible risk transfer shortfalls and the relative opacity of transactions of this type. It should nonetheless be borne in mind that all these aspects also affect CATs.

When dealing with securitisation in life insurance it is *de rigueur* to mention the unsuccessful longevity-risk transaction mooted in 2004 by the European Investment Bank and BNP. The aim of this transaction was to provide the British market with coverage against longevity risk, especially pension providers. This transaction is of particular interest to us here for two reasons: firstly, because the structure does not follow the usual securitisation procedure, since the coverage seeker would not act as originator but as investor. Secondly, the reasons for the failure of the transaction have been salutary for transactions with similar purposes in the future, such as the longevity swaps recently executed by some companies.

Despite the failure of the abovementioned securitisation transaction, it can by no means be ruled out that other longevity-risk issues might be brought

out in the future, given the pressing need of some participants to cover this risk. Some longevity swaps recently carried out also have to be factored in to the picture as securitisation substitutes.

Another of the specific transaction models in the insurance field, fleshed out since the late nineties, is securitisations of the potential surplus of a life insurance book. The structure in transactions of this sort is significantly different from catastrophe bonds, since they mainly affect a company asset, namely the potential surplus. The asset securitised here could be the potential estimated surplus in an up-and-running book (value-in-force) or might even take in the future surplus that might be generated by later business (embedded value). Although these transactions might have a risk transfer component, their main objective is to raise finance. Depending on the degree of risk transfer generated by the structure and the regulatory context, the financing might also count as equity for solvency purposes.

Other transactions accounting for a notable volume in the field of life insurance securitisation are securitisations of XXX and AXXX reserves. These transactions arose in the United States as a response to the regulatory treatment of provisions in temporary long term insurance, including guarantees of future premiums in the event of renewal, and in universal life insurance with additional guarantees, respectively. As a result of the aforementioned legislation the reserve requirement came to be considered overvalued. Securitisation in this case reduces the value of the reserve to be set up by cession to an offshore reinsurer, which in turn originates the securitisation. The purpose of transactions of this type is therefore essentially regulatory and their sphere of action is limited to companies coming under the XXX and AXXX regulations in the US.

Other noteworthy transactions in the securitisation of life insurance are the viatical settlements and life settlements. The former came onto the market in the eighties on the basis of policies on the life of ill persons, especially those infected by the AIDS virus. Nonetheless, the ill person's increasing access to medical treatment together with the poor image of activities of this type severely limited the development of these transactions. Likewise life settlements are based on a weighing up of the difference between the cash surrender value of a life policy and its final pay-out value. Unlike the viatical settlements, based on the policies of the chronically ill, life settlements draw on the policies of the elderly.

Lastly, mention must be made of other specifically insurance securitisations like those carried out on book acquisition costs and payment collection rights.

But the (re)insurance sector's securitisation function has not been limited to investment and origination. There is one type of insurers that has also played a key role in the development of the securitisation market, namely the bond insurers. Their activity has currently come under a cloud due to the heavy claims ratio and loss of credibility (lowered credit rating), but mention must nonetheless be made of their activity as subsidiary guarantors of many transactions. By furnishing these guarantees the insurers improve the creditworthiness and financial efficiency for the originator and make it easier to place the notes among investors.

Lastly, some companies, especially reinsurers, also contribute towards the structuring of transactions of this type. To do so they usually fall back on their own experience, bringing it to bear on their own subsequent issues or providing services of this type for third parties. On some occasions the reinsurers have carried out the function of pooling a set of risks for subsequent distribution as securitisation notes. Discernable here, therefore, is an example of the business model based on risk channelling and distribution (in contrast to models based on risk pooling) which the financial sector has striven so hard to develop in recent years. Together with the structuring activities reinsurers might well provide

additional financial services by tapping into their own financial capacity, such as serving as counterparty in transaction swaps.

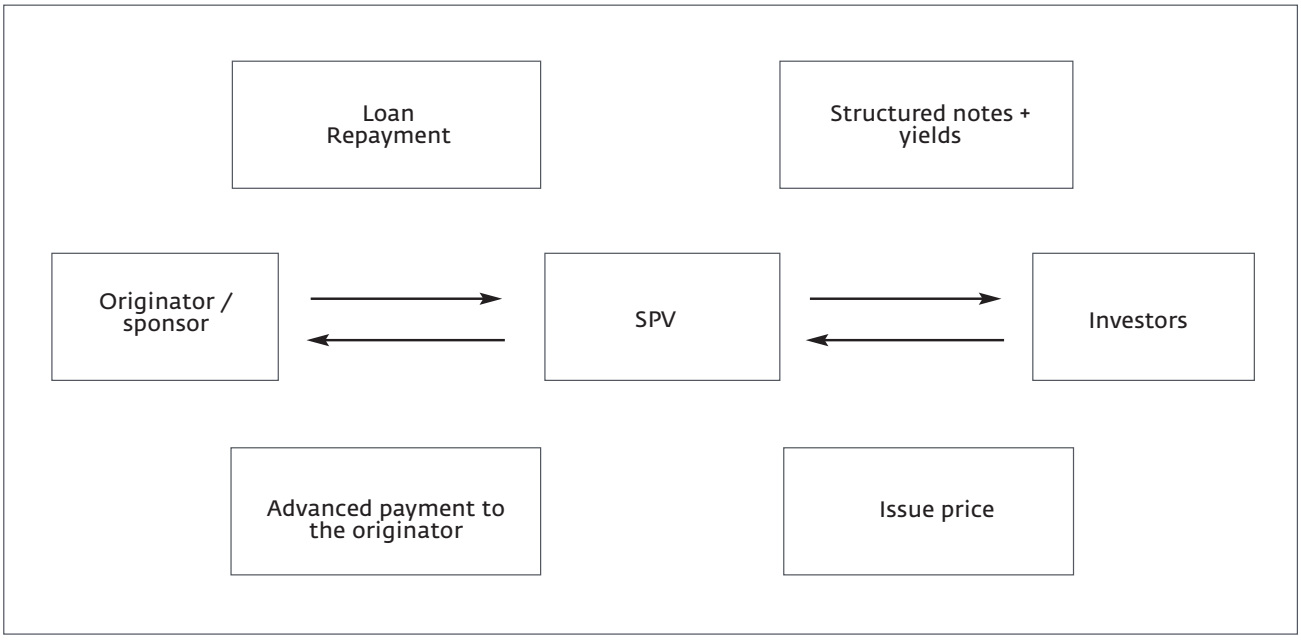
The Structures in Life Insurance Securitisation Transactions

The securitisation structures used in life insurance transactions vary greatly. This is due not only to the diversity of the transactions *per se* but also to the different needs posed depending on the originator and the regulatory framework in which the transaction is carried out. In general, the transactions with a heavy financing component bear greater similarity with the securitisation transactions in other areas of the financial sector. Pure risk securitisations, on the other hand, share certain traits that make them more singular. In any case, an account is given here of the most specific components of life insurance transactions as against other types of securitisation.

The characteristic participants in any securitisation are the originator, the special purpose vehicle and the investors; the same goes for life insurance securitisation transactions. In these transactions, however, the participants have specific traits and functions, as do others who provide necessary services in the structure. These make life securitisations idiosyncratic.

Furthermore, the structures used in the insurance sector generally enjoy the same credit-enhancing elements as are used in other transactions. These include the following :

- The issuer is bankruptcy remote.
- Subordination in the cash flow waterfall.
- Overcollateralisation.
- Reserve accounts.
- Financial guarantees furnished by a third party or wrapping.
- Measures designed to overcome limited and temporary liquidity difficulties.



Standard securitisation structure without true sale of assets to the SPV.

One of the most important securitisation characteristics of the insurance sector is the non-waivable nature of the liabilities taken on by the insurer. Life transactions entail a long term link that the insurer cannot eschew, barring very particular circumstances. In general, there are no impediments to an insurer adopting risk management measures but there will be regulation to ensure this does not mean that insureds forfeit their right to receive the sums owing at the due time. The portfolios underlying any type of securitisation transaction are therefore not normally transferred to any other intervening party in the transaction. This represents a clear difference from other securitisations of the financial sector, where there is a transfer of assets and the intervening SPV takes over contractual rights and obligations. In this case there is considered to be a «true sale», with all the concomitant legal, financial, operational, accounting and fiscal implications.

The «true sale» carried out in securitisations elsewhere in the financial sector is often replaced in the insurance sector by a reinsurance contract. This makes it viable to transfer the originator's risk to the note issuing vehicle. It should be borne in mind here that the subscription of insurance risks is limited in many legal systems to (re)insurance companies, which are hemmed in by a string of regulatory requisites. The fact that the cession is made under the legal form of reinsurance, therefore, is often a *sine qua non* both for the cedant and cessionnaire. For the cedant because doing it in the form of reinsurance makes the transaction eligible for a well-known formula in the sector and among the law fraternity. The transaction thus receives a well-established and generally favourable treatment in regulatory and accounting and fiscal terms. As regards the cessionnaire, it might well be the case that the transaction has to take the form of reinsurance by law, insofar as it is an activity reserved for those who are authorised to accept (re)insurance risks.

The immediate consequence of reinsurance in the transaction is an essential change in the structure: the SPV, which is normally an entity not subject to any regulation (or only in a very lenient form), will perforce have to adopt the legal form of reinsurer. This implies a series of legal charges that raise the costs of the transaction and bind it up with more red tape; conversely this arrangement does provide the security and regulatory advantages of reinsurance. The traditionally used SPV will therefore be replaced by an SPRV, which fulfils the same function of pooling flows and brokering between originator and investors, but it is now an entity subject to the rules of the insurance sector.

Some transactions even involve a two-pronged scheme of SPRV and SPV, whereby the former sets up an reinsurance relationship with the originator and the latter a non-reinsurance relationship with the former. The main aim of this complication is to allow the originator to exploit the advantages of reinsurance cession to the SPRV while also enjoying the flexibility of using a vehicle not bound by the regulation of the insurance sector (the SPV).

The aforementioned absence of a «true sale» imposes another essential characteristic of life insurance securitisations: the need of estimating the transaction's underlying risk. Insurance contracts and, as the case may be, the investments constituting the securitised risk

cannot be passed onto the issuing vehicle, so the operation would have a synthetic formula. But consideration also needs to be given to the inherent characteristics of the securitised risk. In the case, for example, of the implicit surplus of a policy book, the question of how this surplus is defined would also need to be brought into the equation. Unlike the securitisations of the banking world, where the flows for paying investors are determined by means of relatively simple rules in most cases (think for example of the flows from a mortgage loan or credit cards), the rules governing the flows of life transactions are not so straightforward. For example, in securitisation of emerging surplus a determination of this surplus would have to be made and this is often done by way of forecasts in which the originator itself has a high degree of discretion. In the case of extreme mortality bonds the determination of the occurrence of said mortality also poses a severe difficulty, for example due to claim processing delay.

The synthetic character of these transactions is therefore reinforced by the need of modelling the risk to determine the flows to be generated by the transaction. Payments to the issuing vehicle and the investors are not usually made in terms of the flows directly generated by the policies, since these are mingled with many others in the originator (investments, fiscal, operational, etc), which may or may not be relevant to the operation. The risk underlying the transaction is therefore usually determined by means of some type of modelling or parameterisation thereof. The payments made to the investors then depend on the result of applying the formula or preset parameters.

There are a great variety of ways of modelling or parameterising the underlying transaction risk. Quite often, however, it is based on the experience built up in CAT issues. In any case, the modelling applied or parameters used to delimit the risk generate both a moral risk and base risk. The former is especially important to investors since the modelling or parameterisation might filter in a certain degree of arbitrariness favourable to the originator. In normal conditions, however, this is cushioned by the fact that the originator's reputation (or even financial interests) depends on the transaction being carried out properly and the investors receiving the expected amounts.

The base risk affects above all the originator and refers to the possible inefficacy of the applied risk management method: if the flows to be handed over/received from the securitisation transaction are not properly offset (in terms of time and amount) by the amounts received/handed over from the risk evolution, there might be negative deviations. This would obviously imply a mismatch between the evolution of the risk to be managed and the chosen management tool. Insofar as

the risk-simulating models or the risk-delimiting parameters are estimations of the actual risk and therefore not exact, the modelling or parameterisation will generate base risk for the originator.

Securitisations of implicit book surplus

The characteristics of the securitisation of the implicit surplus of a book are fairly similar to the typical securitisations of other areas of the financial sector, barring the asset to be securitised. Essentially it is a question of financing transactions and as such may be conceived with a certain risk transfer component. This means that it might be eligible for a favourable regulatory treatment, making the transaction doubly handy and attractive.

Some transactions of this type that have been carried out are:

YEAR	VEHÍCLE / ORIGINATOR	TRANSACTION TYPE
2001	AMERICAN SKANDIA	VARIOUS
2001	PRUDENTIAL	EMBEDDED VALUE
2002	CBC INS REV	VARIOUS
2002	AMP LIFE	VARIOUS
2002	MONY	EMBEDDED VALUE
2003	INC MONEY MARKETS	XXX
2003	PATRONS	VARIOUS
2003	VITA – SWISS RE	MORTALITY
2003	POTOMAC TRUST	EMBEDDED VALUE
2003	PATRONS	MORTALITY
2003	GRACECHURCH	EMBEDDED VALUE
2004	INC MONEY MARKETS	XXX
2004	POTOMAC TRUST	XXX
2004	PATRONS	VARIOUS
2004	BOX HILL	EMBEDDED VALUE
2004	NORWICH UNION	EMBEDDED VALUE
2004	FLAC	EMBEDDED VALUE
2005	ORKNEY HOLDINGS	XXX
2005	INC TERM SECURITIES	XXX
2005	ORKNEY CAPITAL	XXX
2005	STINGRAY TRUST	XXX
2005	POTOMAC TRUST	XXX
2005	VITA II – SWISS RE	MORTALITY
2005	ALPS CAPITAL II	EMBEDDED VALUE

YEAR	VEHÍCLE / ORIGINATOR	TRANSACTION TYPE
2005	QUEENSGATE	EMBEDDED VALUE
2006	SHENANDOAH	XXX
2006	TIMBERLAKE FINANCIAL	XXX
2006	BALLANTYNE RE	XXX
2006	INC TERM SECURITIES	XXX
2006	INC MONEY MARKETS	XXX
2006	TAILWIND HOLDINGS	VARIOUS
2006	VITA CAPITAL III – SWISS RE	MORTALITY
2006	OSIRIS CAPITAL – AXA	MORTALITY
2006	TARTAN CAPITAL	MORTALITY
2006	RIVERMONT	AXXX
2007	INC TERM SECURITIES	XXX
2007	LIICA HOLDINGS	XXX
2007	RIVER LAKE INS CO	XXX
2007	NORTHWIND HOLDINGS	VARIOUS
2007	VITA CAPITAL III – SWISS RE	MORTALITY
2007	AVONDALE – BANK OF IRELAND	EMBEDDED VALUE
2007	PORTOFINOS – AEGON	EMBEDDED VALUE
2007	METLIFE	EMBEDDED VALUE
2007	DOUBLE OAK CAPITAL	AXXX
2008	SBLI	XXX
2008	NATHAN	MORTALITY
2008	ZEST – AEGON	EMBEDDED VALUE
2008	PINE FALLS	AXXX

As financing transactions these may be implemented with very diverse purposes, ranging from the raising of liquidity for operational needs to the obtaining of expansion resources, including also transactions in which the securitised asset is acquired by using funds proceeding from the securitisation itself.

Securitisations of implicit surplus are therefore asset securitisations but of a very particular asset: namely the future surplus to be generated from a life/saving policy book. The two fundamental problems in the securitisation of this asset derive from both the definition and quantification of the surplus. The problem is further exacerbated by the fact that it is normally necessary to determine not only the emerging surplus in each period but also the future surplus implicit in the book.

In terms of the definition of the surplus, very diverse alternatives have been mooted in the transactions carried out to date. In general, transactions have included closed insurance policy portfolios for securitisation of the emerging surplus; this introduces a greater uncertainty about whether there is also the possibility of incorporating future policies. The emerging surplus in a given period is used for determining whether or not to make coupon and/or principle payments to the investors in the securitisation notes. If there is no emerging surplus the investors might not receive the sums promised or expected at that moment, having to wait for recuperation of the necessary surplus level. Definition of the surplus is an essential element of the transaction, since the payments eventually made to investors will depend on it. The level of risk transfer carried out will also depend largely on this definition.

Once the surplus has been defined as a concept it will then be necessary to calculate it periodically. The emerging surplus is normally modelled by using a criterion established in the securitisation terms. The modelling usually works from the originator's own accounting figures or from the documentation that has to be sent up to the supervision authority. This data is usually amended slightly in line with a criterion also predetermined in the securitisation terms. On some occasions the surplus has even been modelled *ad hoc* for the securitisation transaction.

It should come as no surprise by now to find that, as in other securitisation transactions, conditions are laid down to restrict the transaction in terms of the existing guarantee. In the case at issue here the guarantee consists of the future surplus remaining in the book in question. Without getting bogged down here in the details of these clauses, it is clear that the guarantees in force at each moment are estimated by modelling future surplus and its discount at the moment of the valuation. In general, there are no great discrepancies between estimation of the emerging surplus and the surplus implicit in the book, except for the need of discounting, using in this case the book interest rate.

The transactions carried out from the origins of this phenomenon in the late nineties to date show a great variation in the LTV ratios obtained by the originator on the securitised asset. These ratios range from about 45% to 90%, depending on the characteristics of the structure. Some relevant factors are, for example, the existence of credit-enhancement mechanisms such as subordination, third party guarantees or the retention of part of the risk by the originator.

From the point of view of calculating the finance received as capital there is no blanket standard for all legal systems. As a general rule, however, the capital received can be likened to hybrid capital insofar as the payments are tied in with the company's profit. It is therefore the existence of a certain capacity of absorbing losses that makes it possible to partially or

totally calculate the finance received as capital for the purpose of solvency under some regulatory systems.

From the point of view of the image in the originator's financial statements, consideration must be given to the fact that the emerging surplus is not usually recorded in those statements. The finance received will therefore normally be recorded under the originator's liability, increasing the leverage. Consideration should also be given to particular cases, however, for example when the securitised asset comes from a book previously acquired from a third party.

Securitisation of Catastrophe Mortality Risk

One of the risks underlying securitisation in the insurance world is the existence of negative mortality deviations outside reasonable expectations.

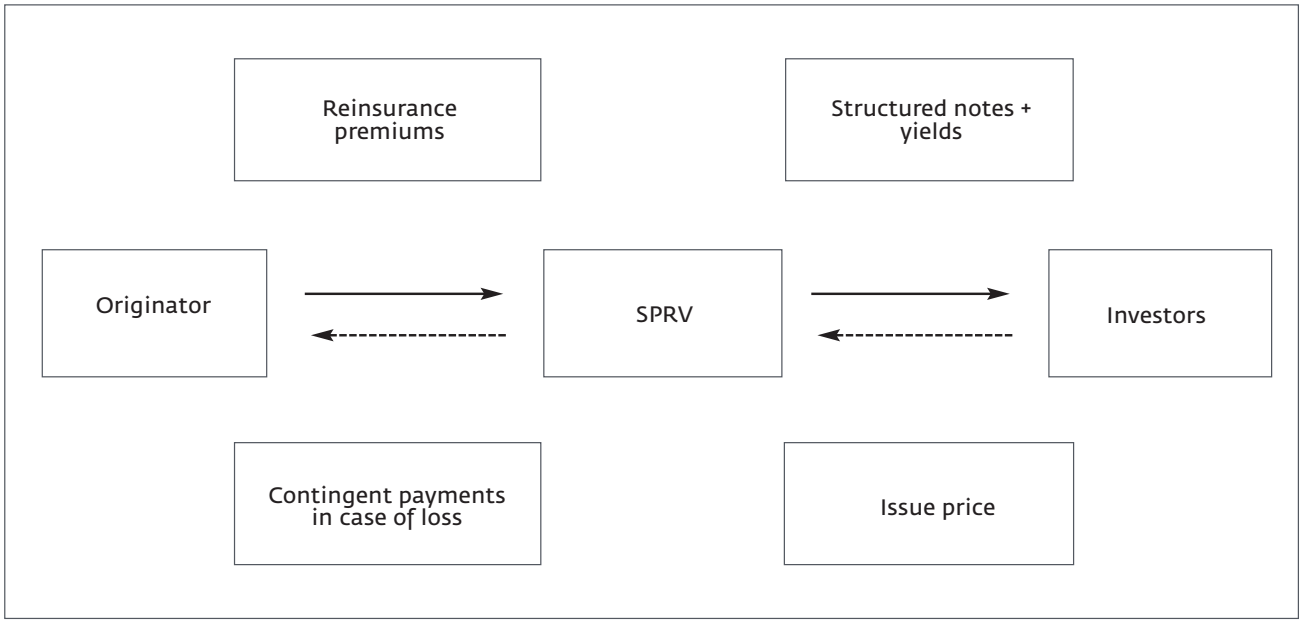
These transactions are based on the catastrophe mortality risk operations that have been carried out in non-life insurance. Unlike the securitisation of implicit surplus analysed above, this is a case of pure securitisation of insurance risk. It is not a question here of trading off future flows against current assets but rather of seeking a true risk transfer. These are therefore considered to be the true alternative transactions to (retro)cession in reinsurance.

The originator's aim in this case is similar to that of acquiring non-proportional reinsurance to cover excess mortality above a given threshold. Hence the use of the adjective «catastrophe» to refer to the mortality covered by these transactions. It is therefore a question of receiving compensation when mortality rises above what might be considered to be a reasonably negative trend of this variable. If the reinsurer sought reinsurance cover it would have to pay a premium and wait for the reinsurer's compensation upon materialisation of the covered risk.

Although the originator of catastrophe mortality securitisation usually has a series of objectives in view, which could also be met by reinsurance, these transactions can be deemed to be alternative to reinsurance. In broad terms, it has been reinsurers or major insurers that have taken up this option for covering the risk in question. The fact that the reinsurers themselves have done so is a telling sign of the complementary nature of risk securitisation for the reinsurance business. It also bears out the need of working with a relatively high volume of risk for securitisation to be worthwhile in comparison to traditional reinsurance.

But the characteristic that really marks off these transactions is not so much their purpose or their users but rather the structure used and the ensuing consequences, as we will explain below.

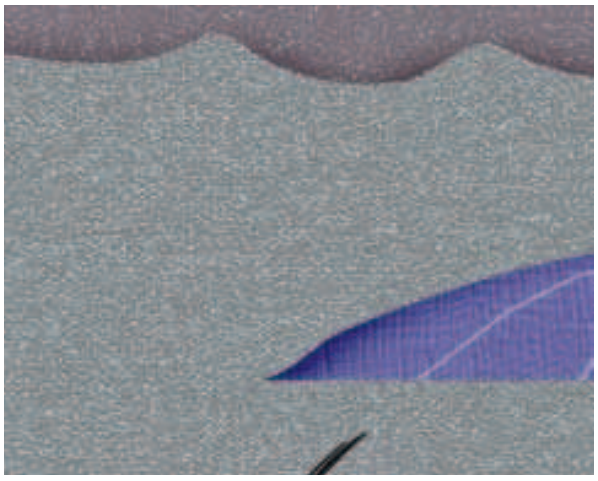
In the reinsurance arrangement the cedant pays a risk transfer price and waits for compensation if this risk should materialise. In securitisation the scheme is the same although the premium is paid to the issuer of the securitisation notes (SPV/SPRV), which then captures the investors funds. This premium serves for remunerating investors, who have previously handed over the corresponding funds to the issuer. The note issuer has hence already mustered the necessary funds to be handed over to the cedant if the covered event should occur. If said event should occur, the investors will lose part or all of the sums furnished, depending on the agreed guarantee terms. Otherwise the note issuer will pay the sums handed over back to the investors together with the agreed remuneration. The following scheme (opposite page) shows the relations between the main participants in the transaction:



Extreme mortality risk securitisation structure.

This scheme shows that the SPV/SPRV will keep the funds captured from the investors throughout the whole life of the transaction (either until end-of-term maturity or early maturity due to the transaction-triggering event of extreme mortality). These funds will normally be invested to reduce the transaction cost; this may be done directly by the SPV/SPRV or through a credit derivative. These investments therefore introduce an additional risk element into the transaction, i.e., the risk deriving from these investments. This risk is generally negligible because the investments are made in top-quality public debt securities. Additional safeguards can also be set up against any mismatches between the investment yield and the cost of the notes not covered by the credit spread. A lax fund placement policy might undermine the transaction if the losses in said investments mean that the SPV/SPRV's funds fall short of redeeming the notes or covering the originator, as the case may be.

The use of derivative contracts in the securitisation structures exposes the transaction to counterparty risk. This has traditionally been dismissed as negligible in view of the high creditworthiness of derivative counterparties. Recently, however, it was thrust into the limelight with the bankruptcy of the American investment bank Lehman Brothers, which acted as



counterparty in various derivatives used in insurance risk transactions.

True it is that the counterparty risk of derivatives involved in securitisation transactions is not exclusive to securitisation of catastrophe mortality. Nonetheless, this is especially dangerous in transactions of this type when a total return swap is used as investment mechanism of the SPV/SPRV. This is because it runs a higher risk of losing all necessary funds for redeeming the notes or covering the originator than in the case of derivatives that do not involve movements of the principal, such as interest rate swaps.

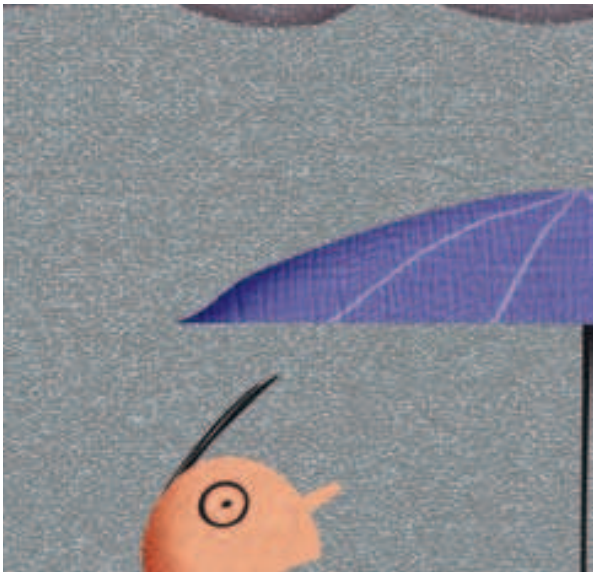
Securitisation Transactions in the Framework of Solvency II

In April 2009 the European Parliament approved the Directive on the taking up and pursuit of insurance and reinsurance, also known as Solvency II . This directive brings in a thoroughgoing updating of the legislation on insurance companies, switching to an «economic» approach against the former «legal» approach. It is a framework directive in the sense that it lays down a series of principles to be fleshed out later by other more specific legislation. In any case, notwithstanding any particular features that may appear in subsequent legal development, the new framework of Solvency II favours the use of risk management mechanisms other than reinsurance and not expressly provided for in Solvency I, such as securitisation.

The first point to make here is that the directive itself makes an express reference to securitisations as a risk mitigation arrangement in article 105.6. Although it is true that the reinsurance directive of 2005 already referred to the possibility of SPVs assuming (re)insurance risks, securitisation had not hitherto been expressly considered as a risk transfer formula. The aforementioned bare reference made in article 105 therefore already represents a great step forward for securitisation-based risk management in the insurance sector.

Under Solvency I securitisation transactions with financing characteristics could impinge on capital requirements, broadening the solvency margin by total or partial consideration of the transaction as hybrid capital. It might also affect the solvency margin requirement but for that purpose the transaction has to be structured as reinsurance, and this is not always the case. We hence see that although securitisation transactions are not banned under Solvency I, attention focuses strictly on the structural form rather than its effects as a risk management mechanism. As a result of this «legal» or formal approach the structures are often beset by complications that can be considered unnecessary for the ends in view.

Under Solvency II economic criteria are overriding when it comes to making valuations and determining the required and available capital, as against formal considerations. This means that, when determining the requisites of capital, reserves and other survival-favouring elements laid down in the directive



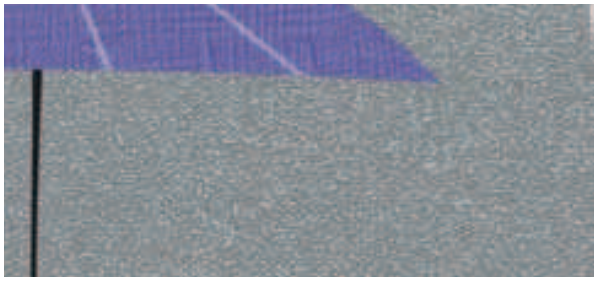
and also monitoring compliance with the company's obligations, consideration has to be given to the reasonably foreseeable effects of the risk management arrangements regardless of their denomination or structure.

From the viewpoint of the required capital (SCR and MCR), the various modules making up the standard formula will be affected by the securitisation transactions carried out. It is clear that, depending on the characteristics of the structure, the negative flows deriving from the materialisation of a risk will be totally or partially offset by the positive flows that might derive from the securitisation transaction and *vice versa*. The capital requisite therefore aims to take in the effects of a wide range of risks; insofar as these are modified by a risk management arrangement like securitisation, due consideration should be given to their effects. All this is regardless of whether or not the structure contains implicit reinsurance transactions.

It is also essential to take into account that securitisation effects on capital requirements under Solvency II can be raised to their maximum extent by using the internal models laid down in articles 110 ff. of the directive. This would involve modelling the transaction for incorporating it into the capital quantification mechanism in accordance with the company's own estimations of how the transaction is likely to pan out.

As well as the above, the securitisation transactions may also impinge on the capital requirement through equity. The arrangement in this case bears a great similarity to the provisions laid down in Solvency I. Now, however, instead of defining the capital in specific terms, it is defined in general terms. Article 93 of Solvency II lays down the criteria of:

- Availability (or can be called up on demand), to
- absorb losses totally and permanently,



- and in the case of winding up,
- subordination to compliance with insurance and reinsurance obligations.

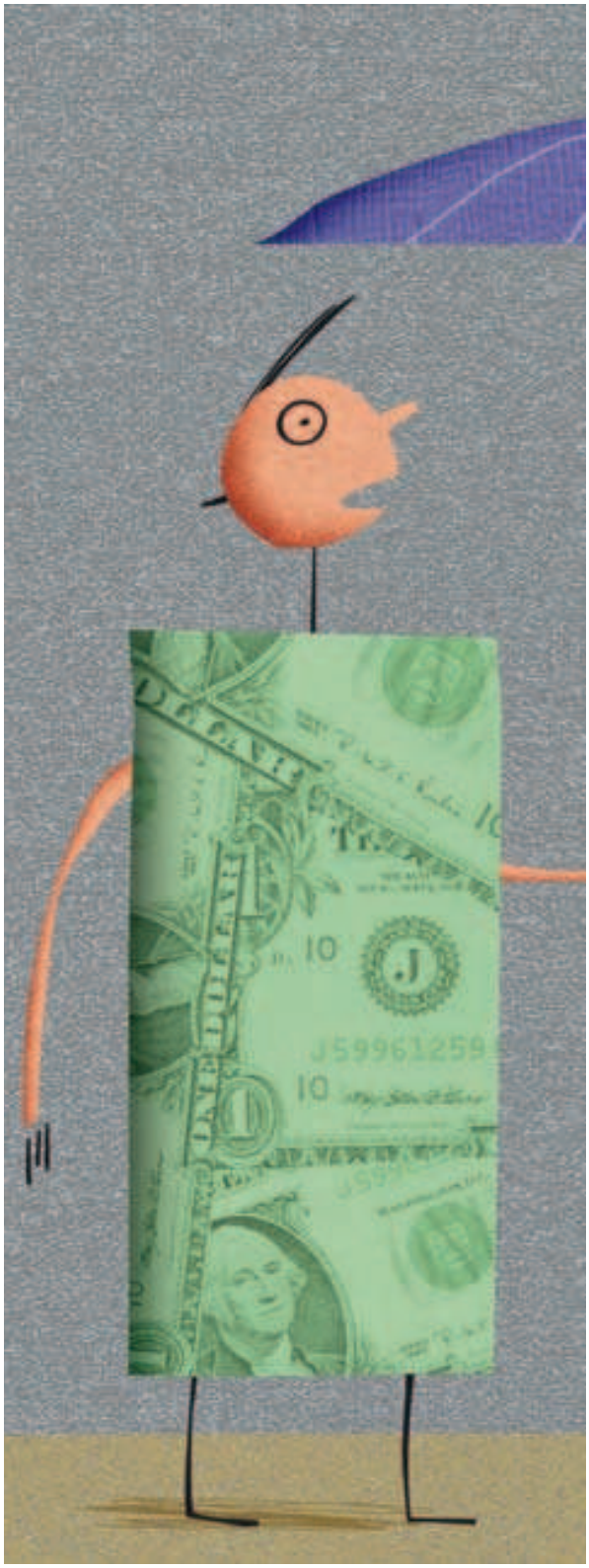
In addition, the following features are considered:

- Duration (dated, undated or sufficient).
- Existence of incentives to redeem the nominal sum.
- Existence of mandatory fixed charges.
- Existence of encumbrances.

Under these general criteria, therefore, we may find a host of different formulae and it is not possible to classify the securitisation transactions in general. It will be necessary to analyse all the above characteristics to ascertain, firstly, whether or not they can be classified as equity. Secondly, if they can be classified as such, their categorisation as equity of level 1, 2 or 3. We see once again, therefore, that it is the characteristics of the operation itself that determine the behaviour of the securitisation transaction for regulatory purposes rather than its classification in predetermined categories.

THE INCIDENCE OF THE RECENT CREDIT CRISIS ON SECURITISATIONS OF LIFE INSURANCE

Securitisation transactions have grown exponentially in recent decades as part of the general expansion of credit markets. This has obviously fuelled



the development of the securitisation of risks in general and of life insurance risks in particular.

Securitisations of life insurance risks have grown sharply since their appearance in the late nineties to date. This is a nascent market that has not yet reached the levels of other insurance securitisation arrangements like catastrophe bonds. The volume issued is negligible as compared to the larger segments of the securitisation world, such as mortgage or credit card transactions.

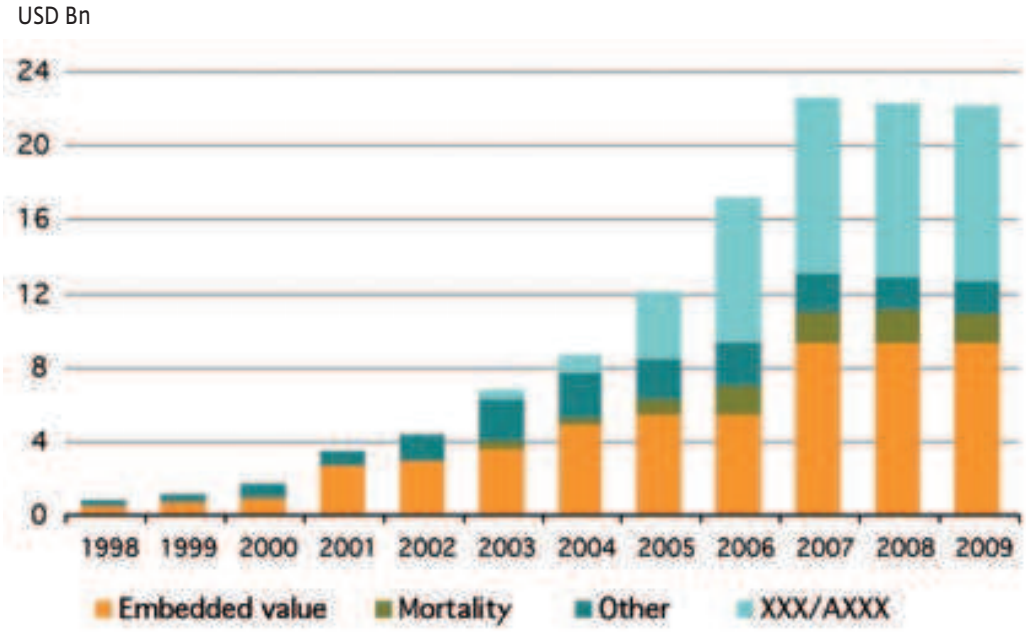
In any case, the growing solidity of this activity is borne out by the market growth rate, the sheer diversity of the transactions and the repeated issues of some participants. Particularly striking is the market's relatively good showing in the last two years. True it is that the issue growth rate has slowed down since mid 2007, but it has always been possible to carry out some issues. Even after the fall of Lehman Brothers and the consequent freeze of the credit markets, some transactions have been carried out.

A particularly striking case among recent issues is the one made by American International Group after receiving aid from the government of the United States. In January 2009 AIG made a private placement with a face value of 8.4 billion dollars based on life insurance settlements. This sum has been used partially to pay back the public aid received. AIG has also announced the securitisation of the implicit surplus in its life book to speed up the payback of said aid.

Similar behaviour has been shown by Aegon, which carried out an embedded value issue worth 900 million euros in October 2009. This company has also received public aid, in this case by means of a capital injection of 3 billion euros. The securitisation of future profit will thus endow it with liquidity for paying back the aid received.

Both cases show that even in conditions of instability the insurance sector can use securitisation as a financing mechanism to tap into an asset that would

OVERVIEW OF LIFE SECURITISATIONS



Source: Sigma – Swiss Re

otherwise offer no liquidity. These are therefore important examples of risk management options using securitisation.

Nonetheless, events of the last two years have also brought out certain weaknesses in the life securitisation activity. One of them has already been commented on above when analysing catastrophe mortality issues: when there are funds that have to be invested or flows covered by third party contracts, this gives rise to additional risks for the transaction.

Another substantial weakness brought to light is the use of financial guarantees in the issues (wrapping). Many of the issues carried out in the life area use guarantees issued by bond insurers to boost creditworthiness, giving the transaction a higher credit rating. As with any other reinsurance product, these guarantees are useful if the insurer has to be compensated in the event of a loss. But in this case the guarantors have failed alarmingly in this remit: most have left the business or simply disappeared. In any case, the current widespread mistrust of guarantees of this type together with the low credit rating of the guarantors impede the use of this arrangement.

Disappearance of the recourse to third party guarantees hinders execution of the transactions, since it is more difficult to reach maximum rating levels then when backed up by an AAA guarantor. This might be a drawback for life bond originators, since the absence of any guarantor may cause investors to pay more attention to the underlying risk in transactions of this type. Given that these risks are often difficult to understand, the investor base is likely to be weakened while less well-known originators are likely to find market access tricky.

Lastly, it should also be noted that the trend of growing structure complexity observed in recent years is likely to be reversed. If investors can no longer rely on a guarantor and have to carry out a more in-depth analysis of the implicit transaction risks, it is reasonable to expect that less opaque structures will be called for.