HOW LIFE INSURERS COMBAT ANTI-SELECTION

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About Paul Donnelly

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He brings more than 20 years experience in the software products industry to Munich Re. In previous roles, he has been responsible for all aspects of product management (including product definition, positioning, promotion and pricing) of a $75m annual run-rate middleware product, leading-edge financial prediction software, and software to standardise the sharing and communication of configuration information in enterprise environments.

Paul has held senior product management and strategy roles at IONA Technologies, Prediction Dynamics and Parallel Graphics. He began his career with eight years at Siemens, initially in London, and then in Munich.

Paul is a member of the Board of Guardians & Directors at the Coombe Women & Infants University Hospital (the largest provider of Women’s healthcare in Ireland), and was formerly Executive Committee Member of the Irish Software Association.

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One of the greatest threats facing life insurers is anti-selection (also called adverse selection or negative selection). Anti-selection occurs when an underwriting information deficit allows a higher-risk group (such as smokers) to purchase life or health insurance at the same price as a lower-risk group (non-smokers). This imbalance produces four outcomes:

1) The members of the high-risk group receive higher claims payouts, and are more costly to the insurer;

2) Because they pay a relatively low price, members of the high-risk group purchase additional insurance;

3) The insurer, to cover losses, raises rates for everyone;

4) The low risk customers abandon the company and seek coverage at a lower price elsewhere. Anti-selection is most often attributable to two sources: improper underwriting and risk selection by the insurer, and/or superior knowledge of the risk either by the insured or some third party involved in the transaction. The best protection against anti-selection is for insurers to understand the population of applicants, and to identify any trends or changes to their applicant base. Increasingly, these goals can be attained through automated underwriting systems that capture customer information, and Business Intelligence (or Business Analytics), which are powerful software solutions that permit insurance companies to process vast amounts of data and mine information that drives critical marketing decisions.

Executive Summary

Anti-selection is a well-known term in the insurance world and although there are a number of industry-standard definitions for anti-selection, broadly speaking it can be defined as:

The adverse impact on an insurer when risks are selected that have a higher chance of loss than that contemplated by the applicable insurance rate. It is important to note the principles that govern fairness in life insurance underwriting:

- **Utmost good faith:** Applicants have a duty to disclose to the company what they know about their own risk profile. Insurers have a duty to explain the nature of the product being applied for to the applicant

- **Equity between policyholders:** Everyone should pay a premium proportionate to the risk that they bring to the insurance fund. Equal risks should be treated equally.

What Is Anti-Selection?
What concerns life insurance companies most are conditions that applicants know about but do not want the insurer to evaluate or rate in their assessment of their application. A priority for insurers is avoiding anti-selection or adverse selection, defined as, “the process in which the exercise of choice by insureds leads to higher-than-average loss levels since those with a greater probability of experiencing a loss are most likely to seek that kind of insurance.”

Generally anti-selection occurs when there is asymmetric information between the parties to a transaction, or where an insurer has an underwriting “blind spot.”

Asymmetric Information

As explained by the Nobel Committee (Economics, 2001), “Asymmetric information is present whenever actors on one side of the market have better information than actors on the other, and this information is important to the outcome of the exchange.”

Asymmetric information results in anti-selection. The less-informed party (the insurer) cannot fully distinguish the “good” risks from the “bad,” and the “bad” or riskier parties to the insurance contract tend to sign on to the contract more frequently than the “good” risks. In this case, the market outcome will entail cross-subsidisation of “bad” risks by the good and thus adverse selection leads to inefficient market outcomes, and impedes the application of the principal of equity between policyholders: that everyone should pay a premium proportionate to the risk that they bring to the insurance fund, and that equal risks should be treated equally.

In situations of asymmetric information where high-risk customers (those in dangerous jobs or high risk lifestyles) have information that the insurer doesn’t have about some aspect of the transaction, it is likely that the high-risk customer will purchase life insurance. People with poor health are more apt to apply for, or continue, insurance than those with average or better-than-average health expectations, if the price for both groups is the same.

Non-Disclosure

It is important to distinguish between non-disclosure and anti-selection.

Non-disclosure is the failure to provide information material to underwriting. More than 50% of health non-disclosure is probably accidental or unintentional. Anti-selection occurs when a condition is fully disclosed to the extent required by the insurer but the insurer does not make use of the information. For example, if a man knows he has an elevated Prostate-specific Antigen (PSA) level but conceals the fact when asked, it might put the insurer at risk and constitutes a nondisclosure.

However, if the same man selects an insurer because they do not as a rule look at this risk, and do not seek any information or medical evidence for this condition, then this represents anti-selection rather than non-disclosure.

In many ways, anti-selection is caused by inefficiencies and/or blind spots on the part of the insurer, which are then exploited intentionally or otherwise by the applicant. Again, we can distinguish between inefficiencies and blind spots:

Inefficiencies refers to the situation where an insurer is aware of a risk posed by a condition, and seeks disclosures pertinent to evaluating that risk but does so in a way that is ineffective in exposing the risk in the majority (or a significant minority) of cases. This can be the result of poor product design or poorly formulated disclosure questions, etc. In the case of a disputed claim in these situations, the regulatory authority will almost always take the consumer-friendly position that it is up to the insurer to ask the questions it needed to ask and that the cost of any misunderstanding should be borne by the insurer.
Blind spots cover the situations where an insurer is unaware of a risk posed by certain conditions and does not seek to refine either its products or its disclosure process. A good example of this would be the case a couple of decades ago where some insurers were late adopters of offering differentiated smoker and non-smoker rates. The early adopters understood the different risks posed by the two categories of applicant and priced/rated accordingly. This led to smokers anti-selecting against those insurers who didn’t know/choose to make a distinction.

“Insurance Is Sold not Bought”

As a counter-measure to anti-selection, this old adage could be the reason that many insurance companies rather sell to a consumer than have a consumer come to buy insurance. People with poor health are more apt to proactively apply for or continue insurance than those with average or better-than-average health expectations.

The Role of the Producer or Broker in Anti-Selection

We have previously said that anti-selection arises out of the asymmetric information between the insurer and the applicant or policy holder.

In many cases this information advantage accrues to the applicant as they, quite understandably, have a better knowledge of their financial and medical affairs than the insurer can ever hope to have.

However, in some cases this information asymmetry can take the form of the applicant having a better knowledge of the insurer than the insurer itself. How can this occur? How can a consumer gain the knowledge and be in a position to select one insurer over another based on that insurer’s poor disclosure process or poor product design?

To understand this we need to look at the role of the insurance producer or broker. The producer, regardless of whether this is an independent financial advisor or a tied agent of the insurer’s, is typically motivated by a commission system. They want to get every applicant on-risk as soon as possible and with as few impediments to a policy issue as possible.

In many cases an independent financial advisor is also motivated to provide the best advice possible to the applicant.

For example, in the case of the applicant with the elevated PSA levels seeking life insurance in a market where some insurance companies stringently check for this condition as part of their new business underwriting process and some don’t, is it any wonder that the producer will steer the applicant towards products from companies that demonstrate this weakness?

This action constitutes better advice to the applicant, is more likely to lead to a swifter and better service, will lead more likely to a sale and hence will more likely result in a commission for that producer.
Historically, the causes of anti-selection can be attributed to a number of the following points:

- The cause may be systemic or due to the actions of individual applicants.
- Systemic anti-selection may arise from poorly worded questions, or poor product design.
- Anti-selection due to the actions of individual applicants can be caused because some applicants deliberately fail to disclose information, but is more likely to be caused by genuine misunderstandings.

**Challenges**

The life insurance industry is facing a change in the way investors, agents, and individuals respond to the increasing availability of financial and medical information. There is no doubt that new advances in medical technology and the availability of medical, genetic, and lifestyle information increase the threats of anti-selection in life insurance, but also present opportunities for insurance companies.

The threats of information being exploited by investors, agents, and individuals against insurers have always been present, but until recently the insurance industry viewed them as merely nuisances. Now they are seen as a renewed threat to life insurers due to increases in product complexity and broad dissemination of information that previously had been available only to the insurer.

In life insurance the main defence to anti-selection is underwriting—a skill as old as the insurance industry itself and one that has been continuously updated and improved with each additional piece of information it has collected and every new technology that has been developed. The life insurance industry historically has been able to use its information advantage to keep its underwriting a step ahead of the anti-selection of insurance producers and policyholders.

Increasing regulations and social norms prevent insurers from using certain categories of known information to set prices (e.g. insurers may be prohibited from using information such as gender or ethnic origin or genetic test results), and some information is “out of bounds” for underwriting decisions. This increases the pressure on underwriting teams to ensure that they are getting the very best out of the information they can use to make a decision.

**Why Does Anti-Selection Occur?**

Several trends are converging and causing the possibilities for anti-selection to expand and become much more dangerous to insurers and insurance customers.

1. The increased number of riders and other choices available for insurance policies. Life and health insurance policies have a wide range of guarantee riders that can protect the policyholder. Benefits can be paid in many different forms.

2. Expansion of medical information. The human genome project has yielded a broad range of information on genetic conditions and predispositions to various medical conditions. Medical technology has expanded in many other areas as well. People now have access to significantly more medical information—both general information and information specific to themselves. Where once insurance companies knew more about people’s specific mortality than the people themselves, now the balance of information has shifted.

3. Internet information access. Via the Internet new information (and quite a bit of misinformation) is readily available to just about anyone. A quick search can produce links to numerous web sites with titles like “Looking for Anti-Selection in Life Insurance?”

Ideas are freely exchanged among people. People with uncommon medical conditions used to be isolated rarely knowing anyone else with the same condition. Now online chat rooms and message forums connect them. Insurance agents can share their knowledge of companies’ underwriting and steer their clients to the company offering the most competitive rate for their specific circumstances.
Insurance companies with underwriting blind spots may find agents exchanging that information leading to robust sales of products the insurance company discovers are priced inappropriately. Information regarding these opportunities is readily available to policyholders and agents alike.

**How will insurers react to this?**

As genetic testing becomes more widespread, insurers denied access to such information will become more cautious, resulting in:

- Price rises and more conservative product design affecting all applicants, in particular those least able to afford insurance.
- A more cautious approach to the acceptance of higher risk lives.
- And at a macro level, more people reliant on personal savings or state support.

Life insurance companies have taken a number of steps to minimize the potential for incidental non-disclosure and anti-selection and these include:

1. Amending application forms to ask clearer questions.
2. Record better answers.
3. Scripted tele-underwriting to replace traditional interviews. Trained interviewers phone applicants to clarify and elucidate disclosures on the application form. This works at a number of levels. One, interviewers are very successful at drawing out information, which means that, two, they are cost-effective, avoiding the need for doctor’s reports and allowing cases to be accepted, maybe with a loading, without further ado. Three, tele-underwriting is both professional and friendly, allowing it to be positioned partly as interim customer care: benefit as opposed to irksome intrusion.
4. Use of automatic underwriting engines with detailed reflexive questions
5. More questioning on Alternative and Complimentary Medicines
6. More use of emerging technologies e.g. Cotinine and other tests including Biometrics at POS (Point of Sale)
7. Use of Rx (Pharmacy) profiles
Traditional Detection

Traditionally, the key point at which anti-selection has been detected is at the claims stage, in particular through the investigation of early and suspicious claims. If information has been proven to have been withheld, then the claim amount would be adjusted or the insurer would refuse to pay the claim.

Also, monitoring the incidence and “frequency of claims” causes can enable an insurer to adjust premiums, product design, or underwriting terms for future business.

The Future

In today’s competitive insurance marketplace, insurers that attempt to detect anti-selection at the claims stage are trying to close the barn door after the horse has escaped. Insurance companies must proactively measure and predict risk and constantly fine-tune their product lines and prices. Insurers need to keep a close eye on the source and type of new business as it is proposed, and be able to detect and explain any trends. To fail to do so is to risk being overwhelmed by a tsunami of unforeseen claims. Furthermore, this delayed detection, and the out-of-band claims profile it causes, encourages insurers to increase premiums, which in turn drives away lower-risk customers, causing a spiral of declining profits.

For successful underwriting, the ideal would be having both infinite marketplace information available in real time and the organizational capacity to respond. In this way both inefficiencies and blind spots could be eliminated. While the ideal is still out of reach, today’s 3rd and 4th Generation New Business Processing software applications (see page 10) can bridge the gap and provide powerful data collection and analysis resources.
Competitive insurance companies understand that knowledge is power. They implement business strategies based on two key technologies:

1. Automated underwriting systems that are innovative, and enable the setting up, changing and managing the underwriting rules for all aspects of a company's products, channels and modes of operation. They are designed to empower the user without dependence on third party vendors or IT resources. They capture huge amounts of customer information in a way that facilitates meaningful analysis and enable a quick response to emerging trends from both the industry and a company's data analysis.

2. The growing field of Business Intelligence (or Business Analytics). Today's powerful software solutions permit insurance companies to process vast amounts of data and mine information that drives critical marketing decisions. They stay ahead of trends and can anticipate shifts in the marketplace in ways that were impossible even five years ago. Using advanced software solutions, insurance companies can move closer to the ideal of every insured purchasing a product that is both profitable for the company and a comfort to the customer.

Insurers that fail to respond to the growing complexity of the insurance market risk exposure to potentially fatal anti-selection. As values rise and risks increase, one miscalculation can spell disaster.

Yet as the challenges become more complex, so the technology necessary to meet these challenges becomes more sophisticated. Insurers have access to easy-to-use software that can manage data faster and more accurately than was dreamed possible those short five years ago. Premium fees can be calculated with greater precision than ever before, and blind spots eliminated. Surprises are the enemy of the insurer - and today's Business Analytics software can virtually eliminate surprises.

By successfully using today's technology to manage risk, insurance companies can provide the best possible coverage at competitive prices, while generating increased profits and expanding market share.
Evolution of Automated Underwriting Software Systems

1st Generation: These are black box systems which were probably enforced/encouraged on an insurer’s underwriting team to ensure consistency as well as a bare minimum standard of underwriting decision making, for example through reinsurers offering discounts where such systems were deployed in a client’s underwriting process for new business. These systems are not typically controlled by the insurer, nor does the insurer have the ability to adapt or change them. The sole benefit to the Insurer seems to come through the lower reinsurance treaty price. These systems are not easily adapted or changed to meet the changing needs of the insurance company.

2nd Generation: these are systems which are adaptable or changeable – in theory even by the insurance company – they have open interfaces which you can program your underwriting logic against. In practice the level of expertise necessary to achieve this has meant that such changes can generally only be safely made by the original developers of the systems (the vendors, typically reinsurance companies) with one or two notable exceptions where the insurance company has for example, hired staff with deep knowledge of the system who previously worked for the vendor, or where over many years of dedicated effort they have built these skills in-house. These systems can be changed, but only by IT experts with solid programming skills and deep knowledge of the product.

3rd Generation: These are systems where a graphical user interface, or some other mechanism exists to enable an insurer whose underwriters have basic computer literacy (basic here means the typical expertise in office and business software that anyone who uses a PC on a daily basis should have) to extend the system to add new business logic (Underwriting Rules), or change or adapt the existing logic without the dependency on outside expertise such as programming know-how from the IT department or an outside consultant or vendor support. This marks a dramatic leap forward as this generation of system puts power in the hands of the underwriting team for the first time, and removes the dependence on the vendor.

4th Generation: Once ease of use becomes a given, the frontier moves to delivering actionable analysis. 4th Generation systems, in addition to a 3rd Generation User Interface, also provide powerful reporting functionality, giving the underwriters (and other stakeholders such as the VP of Insurance Operations or the Head of Distribution) a deep understanding of the present and past behaviour of their system.
How Life Insurers Combat Anti-Selection

About Munich Re Automation Solutions

Munich Re is one of the world’s largest reinsurers providing solutions for complex risks to 40 million clients in over 30 countries.

Munich Re’s Automation Solutions are the market leader in providing new business processing and underwriting automation solutions to the life insurance industry. The Automation Solutions division of Munich Re delivers exceptional solution-based expertise that enables straight through processing (STP), increases sales and reduces costs for life insurers worldwide.

Munich Re’s Automation Solutions have enabled STP and “instant issue” for insurers and banks globally, who are now able to auto-assess the majority of new applications at the point of sale for a variety of life insurance products across the full spectrum of distribution channels. This has been accompanied by a significant reduction in new business acquisition costs.

Headquartered in Dublin Ireland, the Automation Solutions division of Munich Re also has offices in Tokyo Japan, Sydney Australia and Chicago USA. The Automation Solutions division of Munich Re stands for outstanding client proximity, and its list of clients proudly includes world leaders such as Zurich, Aegon, Liberty, Unum, ING, HSBC, Prudential, The Hartford and Metropolitan Life.

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