DAY 3
WEDNESDAY, OCTOBER 29 2008

THE Review
Class Report

THOUGHT LEADERSHIP ON THE KEY RENEWALS ISSUES

TODAY ► INFLATION

Imbalance potential

SHOULD INSURERS BE CONCERNED ABOUT INFLATION? AS JOHN DAVIDSON EXPLAINS, AN INSURER'S ECONOMIC VALUE IS PUT AT RISK IF INFLATION EXCEEDS ANTICIPATED LEVELS

Through July year-over-year rates of the Consumer Price Indices (CPI) increased to 4.5% in the UK, 5.6% in the US, 4% in the Eurozone and 6.3% in China.

Inflationary pressures have been generated by higher energy and commodity prices and deficit spending, but have been somewhat offset by lower home prices (as measured by owners' equivalent rent) and slower economic activity.

DIFFERENCES IN INFLATION

Differentiating between unanticipated and anticipated inflation is important in assessing the impact of inflation on insurers. Anticipated inflation should already be incorporated in the prices of fixed income securities and reinsurance contracts.

The economic value of bonds and insurance contracts should not change if inflation, however high, unfolds as expected. On the other hand, unanticipated, higher inflation negatively impacts both the asset and liability side of the insurer's balance sheet because it causes bond prices to decline and insurance payouts to be greater.

Insurers believe that they have a natural economic hedge between their fixed income assets and their stream of liabilities (economic reserves). If interest rates rise, the value of the bonds goes down, but so does the present value of the stream of liabilities. Yet, if interest rates rise because of unanticipated inflation, this hedge may not hold.

EXAMPLE SCENARIO

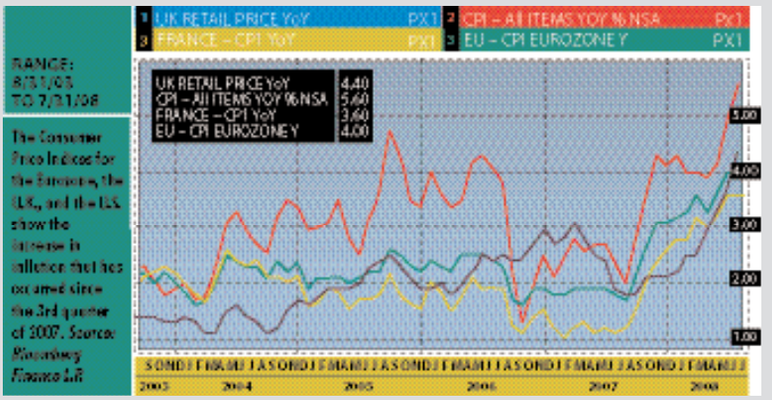
Consider a company with a $10bn fixed income portfolio with a duration of four years. If this company also has reserves with a discounted economic value of $6m and a duration of four years, the insurer is partially hedged against changes in interest rates. Yet, if unanticipated inflation is 100 basis points higher, the value of the bond portfolio may decline by approximately $400m.

The economic value of the reserves has two offsetting forces; the expected payments increase by approximately 1% per year, but the 1% higher discount function decreases the present value of those payments. The value of the bond portfolio is now $9.6bn, the value of the reserves is unchanged; the economic value of the company declines.

Insurers should therefore be particularly wary of unanticipated increases in inflation. Some economists expect that the current economic slowdown will wring out the inflationary pressures. Others are concerned that rising energy and commodity costs will seep into other areas of the economy and provide higher inflation in the future.

Both opinions contribute to the problem for insurers. The former keep expectations lower and thus potentially increase the effect of this imbalance; if the later are indeed correct, insurers will suffer a decline in economic value.

TRACKING INFLATION



THE ISSUES:

- Impact of unanticipated inflation on the balance sheet
- Indexation clauses and motor inflation
- Compounded impact on long-tail reserves

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Establishing effective indexation c

A LOSS INFLATION DETERIORATION OF 2% PER YEAR ON A MOTOR XOL PROGRAMME CAN GENERATE A PRICE INCREASE OF 30%+ SAY **SCOTT**

Indexation clauses and the specific indices used within these clauses define the 'who pays' and 'how much' relating to claims inflation (the driver of long-tail reinsurance pricing).

A thorough understanding of these clauses and their interactions with claims and inflation is imperative to obtaining proper reinsurance cover and at an adequate price.

The three most common clauses today are:

- **Full indexation** – adjusts the reinsurance programme following 100% of the observed inflation (defined in the slip with the help of an official index, usually the Wages or Consumer Price Index (CPI)).
- **Franchise indexation** – postpones the trigger of the adjustment by only taking into account the totality of the accumulated inflation if a certain percentage threshold is reached.
- **Severe indexation** – moderates the impact of inflation by taking into account only the excess deviation of the inflation above the CPI/ Wages index.

DECISIVE ELEMENTS

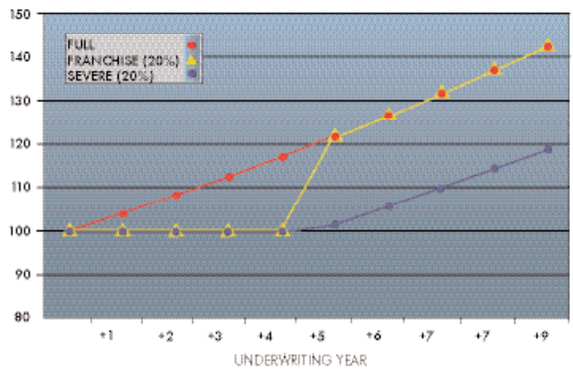
The choice of indexation clause will have an effect on how inflation is ultimately shared, but generally speaking it is difficult to conclude which clause is optimal for the cedant or reinsurer because the amount of loss burden in the layer is also impacted by the:

- claim size and timing of claim payments.
- movement of the index (defined within the clause)
- layer structure.

Arguably more important than the clause itself is the choice of index defined within the clause. This is the index applied to the paid losses and thus acts as the actual proxy for the impact of inflation on large bodily injury claims (the 'proxy index').

If claims inflation is exactly equal to the relevant country's CPI/Wages index, the inflation using a full indexation clause would be shared evenly between the cedant and reinsurer.

INDEXATION CLAUSES



Index used to adjust the reinsurance structure with a full, franchise and severe indexation clause, assuming 4% annual inflation.

Source: PartnerRe

However, the impact of inflation on large bodily injury claims is generally not equal to the CPI/Wages index because actual claims inflation depends on the split of claim cost components, which also varies by market (*see charts, right*).

Depending on the percentage of the total claim cost required to pay the medical and care cost element, the CPI/Wages index may or may not be an accurate measure of claims inflation.

In western European countries (*for example, countries 1 and 2 in the charts, right*), the CPI/Wages index under-estimates actual bodily injury claims inflation because it has a disproportionately smaller medical cost component than the claims. In eastern European countries (*for example, country 3 in charts, right*) (legally capped and thus not contributing to large claims inflation), these indices can over-estimate claims inflation.

NARROWING THE GAP

The principle of the indexation clause in reinsurance is lost if there is a significant gap between the proxy index and actual claims inflation.

For example, in some western European markets, inflation for large bodily injury claims is currently in excess of 10%; compare this to a CPI/Wages index of around 4% and it is clear that inflation is in such a case not equally distributed between a cedant and reinsurer. In fact, a reinsurer could quickly support twice the inflation supported by the insurer.

To bring index clauses in such markets in line with actual claims inflation, one option would be for insurers to switch to an indexation clause with the CPI/Wages index, but with a given per cent of additional inflation.

To illustrate the effect, consider the price of an excess of loss layer, fully indexed, unlimited in excess of 2,000,000 and with one loss of 6,500,000 paid after nine years.

Based on a CPI/Wages index assumption of 4% per year, the loss to the layer is 3,653,376. A deterioration of 2% per year of the loss inflation would increase the loss to the layer by approximately 35%. This increase outlined above could be partially or even totally mitigated by using a different index.

In this example the increase would be limited to 20% with the original index +2%, to 12% with +3% and to only 3% with +4%.

CONCLUSION

In times of high inflation reinsurance cost can be better controlled by open discussions between insurers and reinsurers and by close analysis of claim cost components.

In this way, the most appropriate clause and index for all parties and for the specific market can be found to equitably share the inflation risk and as a consequence to stabilise pricing.

clauses

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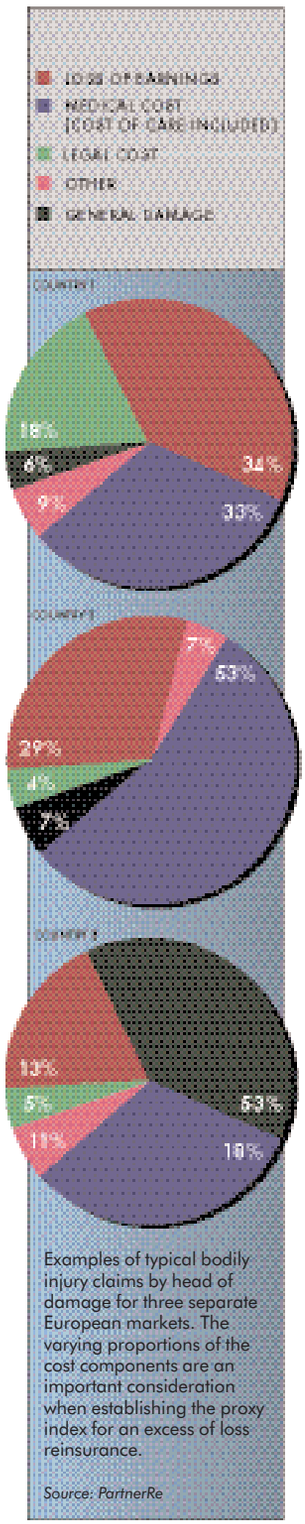
BODILY INJURY CLAIMS IN THREE EUROPEAN MARKETS



Examples of typical bodily injury claims by head of damage for three separate European markets. The varying proportions of the cost components are an important consideration when establishing the proxy index for an excess of loss reinsurance.

Source: PartnerRe

Long-tail reserving

MARC BAGARRY AND **THOMAS SCHNEIDER** DISCUSS THE IMPACT OF UNANTICIPATED INFLATION

Many lines of business have recently experienced substantial increases in loss inflation, as has for example bodily injury cover due to sharply rising medical and care costs and social inflation.

When loss inflation in long-tail lines reaches sustained and unanticipated levels, the impact on reserves can be significant because it applies to claims across multiple underwriting and development years.

Reserves are generally estimated by 'squaring' historic loss development triangles (data triangles). Data triangles show the evolution of reported or paid claims along two dimensions, one being the accident year or underwriting period, the other being the development period. Known claims to date are projected to their ultimate values using patterns derived from triangular data.

ACTION POINTS

Constant and thorough loss and reserve monitoring will mitigate the potentially significant impact of unanticipated inflation on reserves

THE ISSUES

It can be a number of years before unanticipated inflation emerges and begins to be reflected in reported figures. For short-tail lines, such inflation tends to hit the last one or two accident years only. For long-tail lines, however, unanticipated inflation, once apparent, impacts a greater number of accident years and also several development years.

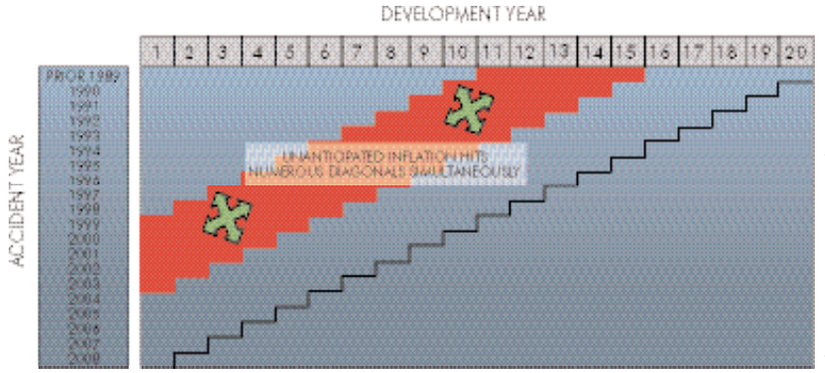
French motor excess of loss reinsurance is a good example. In this line of business, many of the financial years in the first half of the current decade saw unexpectedly high inflation simultaneously and substantially increase reported losses across multiple accident and development periods.

For reinsurers of long-tail lines a further element of complexity is added to the reserving process if, as is often the case, it is unclear when and to what extent ceding companies build inflationary trends into their reserving models.

COMPOUNDED IMPACT

The described effect generates a compounded, inflationary increase in long-tail reserves that is considerably higher than the corresponding annual rate of loss inflation. This increase will be particularly pronounced if the inflation is not recognised early enough through constant and thorough loss and reserve monitoring.

UNANTICIPATED INFLATION AND DATA TRIANGLES



In long-tail lines, sustained, unanticipated inflation increases total losses over multiple accident and also development years.

Source: PartnerRe

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