

Impact of Inflation on Reserves

CAGNY Meeting

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Inflation and Reserves - Agenda

- Discuss impact of inflation in broad terms
 - Current trends
 - Potential impact by line of business
 - Different types of inflation – costs of goods and services, social inflation, inflation due to excessive utilization of services
- Overall Approach used at our company
- Detailed steps taken to model the impact of inflation

Inflation and Reserves

- Due to massive fiscal spending, many economists now believe that higher inflation is on the horizon for the US economy.
- Recent increase in gas and commodity prices have confirmed these trends
- In addition, changes in the political climate may lead to changes in the legal environment
- Impact of Inflation on Reserves
 - Increase in cost of goods and services leading to higher payout versus case reserves
 - Increase in frequency and amount of jury awards due to a change in the legal environment (social inflation)
 - Medical inflation as a result of availability of new treatments as well as increase in the cost of drugs, supplies, etc. (utilization)

Recent Pricing Trends

	Price Per Unit		
	Spring 2010	Spring 2011	% Increase
Corn	\$3.99	\$6.01	50%
Soya Beans	\$9.23	\$13.49	46%
Wheat	\$5.43	\$9.89	82%
Gasoline	\$2.74	\$3.51	28%

Considerations

- Excess layer versus primary layer inflation
- Impact of limits
- Timing and amount of payouts
- Case reserve adequacy, inflation adjustments within case reserves
- Discounted versus nominal reserves
- Impact of Inflation on interest rates and investment income
- Implicit inflation within IBNR
- Reserve adequacy overall
- Income statement versus balance sheet impact
- Duration of reserves

Reserve Payout & Inflation

➤ In order to facilitate the evaluation of the impact of inflation, reserves should be broken out into major buckets such as listed below:

- High layer excess casualty (For example, Umbrella and Excess Casualty);
- Reinsurance working layer casualty (For example, Treaty Casualty);
- Workers' Compensation;
- Small to Mid-size Casualty;
- Automobile Liability;
- Medium and Short-tail property (For example Marine, Treaty Catastrophe, Property)

Higher Layer Casualty & Inflation

- Claim payout is highly correlated with the nature and the severity of the claim;
- For example a bad medical case is usually paid out at limits and is not influenced by changes in inflation;
- This is particularly true when coverage applies at very high limits (for example \$10 million);
- Limits tend to dampen the effects of inflation;
- Claims-made/integrated occurrence coverage leads to quick reporting of a claim and subsequent set up of a case reserve;
- Changes in the political climate may lead to more suits but these would be future events

Working Layer Casualty & Inflation

- These layers are more susceptible to inflation since inflation in the primary layer can have a leveraged effect on the inflation in the working excess layer;
- Many of the policies provide occurrence coverage, hence a change in the legal environment can impact claims emergence from the past (social inflation);
- Increase in medical costs can impact the size of the claim;
- Treaty limits can dampen the effects of the above.

Workers' Compensation & Inflation

- Benefits can be divided into indemnity (wage replacement) and medical.
- Inflation has a limited impact on wage replacement benefits since many states do not allow these payments to increase over time;
- Medical payments are very susceptible to high inflation since
 - Injured individuals can have higher life expectancy with medical treatment
 - This increase in life expectancy comes at a great cost since medical care can be very intensive for disabled workers
 - New/experimental treatments are covered and the associated costs can be large
 - Cost of drugs and devices can be very high
- Excess of loss reinsurance can help dampen the effect of inflation for very severe claims

Short-tail Coverage & Inflation

- Most susceptible to increase in cost of goods and services;
- Property claims can be very susceptible to short-term inflation (for example due to supply/demand imbalance after a hurricane). However, it may be possible to adjust for these changes relatively quickly.
- Changes in cost of materials can have an impact in cost settlements; however these effects are encompassed with the case reserves and known relatively fast.
- In summary the time horizon for adjusting for impact for lines of business such as property, surety, marine are relatively short.
- Social inflation may not be a big a factor for such coverage

Approach used at Endurance

- We profiled our reserve base to get an overall feel for the impact of inflation;
- Based on this, we determined the depth and approach required for each block of reserves;
- We performed an in-depth study to assess the quantitative impact of potential unanticipated inflation;
- We teamed up with the investment team to get a feel for potential inflation scenarios and to provide them with our output;
- The investment team assessed the impact on the asset portfolio and together we determined the overall balance sheet impact.