



# frontiers in finance supplements

A look at inflation risk in the US Property  
and Casualty insurance industry  
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The turbulence in today's financial environment has challenged almost all corporations, but none so much as financial institutions. Banks and investment managers have been most directly affected, but many publicly held insurers have also seen significant reductions in their market capitalizations as a result of asset write downs. And no company is completely immune. Recessionary pressures have reduced personal and commercial capital spending, which in turn have had direct impact on corporate profits.

**T**hrough all of this, Property and Casualty (P&C) insurance companies appear to have enjoyed a relative sea of calm. Those that have maintained their focus on traditional P&C business and more conservative investment policies have fared much better than life insurers and other financial services companies. Rather than feeling relief, management should consider carefully the mid- and long-term effects of the financial crisis and take steps to be among the winners in the coming difficult environment.

There are ominous signs that current stimulus could lead to inflation. Monetarists would point out that money supply increases have greatly outstripped the national

product they support. The US federal budget deficit and accumulated debt are at historical peacetime highs and appear to be headed much higher<sup>1</sup>. The US trade deficit has run high for many years, putting large amounts of US debt in the hands of overseas holders that may decide to sell when times improve.

On the other side of the argument, there are some signs that high inflation is not imminent<sup>2</sup>. For example, yields remain low by historical standards indicating investors' expectations about inflation are fairly tame. The current yield curve is not especially steep, although the recent steepening of the yield curve may reflect increasing concerns over the potential longer term inflationary consequences. Current consumer price index (CPI) figures<sup>3</sup>

show only slight inflation currently, and even slight deflation when oil price declines of 2008 are included. Some observers might argue that deflationary risks still loom.

While there are as many different views of what the future economy holds as there are people willing to share them, given the current level of unprecedented deficits and monetary easing, higher inflation scenarios are being considered by many to be a risk they should now consider.

#### What does this mean for P&C insurers

Many P&C insurers are at risk in two ways. First, insurers hold loss reserve liabilities, which are not fixed, but instead tend to increase with inflation. Second, insurers price products today for the promise to pay tomorrow. As insurers' promises are in real goods, not nominal dollars, prices are set with an assumed rate of future inflation. To the extent future inflation exceeds the assumed rates, insurers will be liable for additional loss and loss expense payments.



Reserve levels are often set based on historical claim cost experience. A long period of low inflation has served as the foundation on which reserves for unpaid losses and loss expenses have been set. Changes in the inflationary environment effect claims payments stemming from all current and past exposure periods. When all past exposure periods are considered, it becomes clear that a sudden increase in inflation is likely to have an impact on reserves and ultimate payments greater than the change in inflation rate.

In the US, prices for many lines of business are subject to regulatory review; there can be a considerable lag between the time inflation is recognized, and when the requested rate changes are approved. Furthermore, insurers dealing with competitive pressures may be slow to react to inflationary turning points, as market prices may be slow to respond to the change in the environment. Insurers could suffer underwriting losses in the interim.

Both of these risks are significant to the balance sheet and income statement.

Table 1 illustrates that the effect of even moderate increases in inflation can significantly impact capital<sup>4</sup>.

### What can insurers do?

Forward-looking companies have a number of paths to pursue when assessing and managing inflationary risk. In general, management should be considering what tools can be developed for measuring the effects of a high inflation scenario. Once the potential effects are understood, companies should further consider and prioritize those activities suited to mitigating the worst outcomes in the event of a period of high inflation. Such prioritization would take into account the company's current and expected risk profile in light of its risk appetite, as well as the external, competitive environment.

Some forward-looking activities include:

### Stress test the balance sheet

Robust stress testing to determine income statement and balance sheet

**Table 1**

#### Impact of inflation change on the current calendar year for the industry

|   | 1.0%   | 2.0%    | 3.0%    |
|---|--------|---------|---------|
| Assumed increase in inflation rate                    | 1.0%   | 2.0%    | 3.0%    |
| Current accident year loss ratio impact (ratio to EP) | 1.4%   | 2.8%    | 4.2%    |
| Reserve impact (ratio to EP)                          | 2.8%   | 5.6%    | 8.4%    |
| One year impact on CY loss ratio (ratio to EP)        | 4.2%   | 7.8%    | 12.6%   |
| Assumed premium to surplus ratio                      | 150.0% | 150.0%  | 150.0%  |
| Negative impact on capital                            | (6.3%) | (11.7%) | (18.9%) |

This table shows the impact of inflation increases of 1 percent, 2 percent, and 3 percent on a typical 'all lines' insurer with a portfolio of business similar to the overall industry. The total impact ranges from 4.2 percent to 12.6 percent of premium. Assuming a premium to surplus ratio of 150 percent, the negative impact on capital would range from 6.3 percent to 18.9 percent. Industry data obtained from Highline Data Services. Premiums and reserves in US\$ millions.

impacts is one valuable tool for addressing unanticipated risks or the unintended consequences of risk interactions. Management may wish to consider whether their modeling includes sufficient treatment of inflation scenarios, including deviations from recent history and extreme event scenarios.

### Pricing discipline

In pricing at a line of business, individual risk, or coverage level, management should consider the risks – including inflation – to which the insurer may be exposed and develop pricing strategies to reflect such risks. For example, the risk premium for a long-tailed line may need to be higher given the increased uncertainty around how losses will eventually play out. However, expanding writings in a short-tailed line may be a very attractive prospect for an insurer to help mitigate the risk arising from long-tailed lines.

### Hedging the inflation risk

Approaches to counteract the effects of inflation will be valuable. While understanding there is no perfect hedge, companies may wish to examine investment strategy in light of liability cash flows or perform asset-liability matching. Other options include adapting underwriting strategies to protect net liabilities in the event of inflation increases, utilizing inflation-sensitive exposure

bases, or tailoring policy conditions to give the insurer the ability to respond to inflation as it occurs.

### Conclusion

US P&C insurers are in a somewhat unique position regarding the financial crisis, in that for many the government's cure may bring about lasting implications that may be at least as challenging as the financial crisis itself. Yet if inflation does come to pass, it would not be fatal if companies recognize the coming risk and take action. Companies with strong enterprise risk management programs in place are likely to be best prepared to deal with inflationary risk now. There is no single approach, but instead the best prepared companies can be expected to put in place a wide program of risk mitigation and hedging now, to avoid the possibility of even more painful impacts in the future.

1. See the Fox news story posted at <http://www.foxnews.com/politics/first100days/2009/04/10/federal-deficit-increases-b-march-setting-record/>.

2. Interest rate information was taken as of July 8, 2009 from the Federal Reserve Website at <http://www.federalreserve.gov/releases/h15/data.htm#fn13>.

| Term        | Constant Yield | Principal Protected |
|-------------|----------------|---------------------|
| One Year    | 0.5%           | None                |
| Five Year   | 2.7%           | 1.3%                |
| Ten Year    | 3.8%           | 1.8%                |
| Twenty Year | 4.5%           | 2.3%                |

3. CPI figures were released in June 2009 and are available at <http://stats.bls.gov/news.release/cpi.nr0.htm>.

4. Taken from an Internal KPMG in the U.S. analysis of Highline Insurance Data.

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For more information please contact:



**Aaron Halpert**  
Partner  
KPMG in the US  
Tel: +1 212 872 6881  
e-Mail: ahalpert@kpmg.com



**Chris Nyce**  
Senior Manager  
KPMG in the US  
Tel: +1 610 341 4803  
e-Mail: gnyce@kpmg.com

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