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Pricing considerations due to COVID-19

Technical article, written by the Property and Casualty Insurance Pricing Committee

As the COVID-19 pandemic situation continues to evolve, actuaries should pay close attention to guidance and updates from the Office of the Superintendent of Financial Institutions, the Autorité des marchés financiers, and the CIA.

Since March 2020, the pandemic and its related societal restrictions and economic shutdowns have affected trends and key metrics in property and casualty insurance. Pricing actuaries will see pandemic-impacted data for the next several years and will need to understand how to adjust these data.

This article, drafted by the Property and Casualty Insurance Pricing Committee (PCIP), discusses pricing considerations for multiple lines of businesses. It does not provide advice or guidance on the appropriateness of specific pricing assumptions or methodologies. Instead, it aims to assist P&C pricing actuaries in making considerations under these unique pandemic circumstances.

The considerations discussed below are not intended to be prescriptive or exhaustive.

1. Actuarial pricing considerations

The pandemic may affect several pricing assumptions, including:

- Past and future loss trends
- Inflationary impacts due to monetary stimulus and supply shocks
- Premium trends
- Exposure trends and mix-of-business shifts
- Loss-adjustment expenses (ALAE and ULAE)
- Expense and profit provisions

For loss development and reserving considerations, please refer to the Property & Casualty Financial Reporting Committee's technical article (login required).

1.1 Past and future loss trends

The actuary would consider the pandemic's impact on loss trends when conducting pricing analysis. These impacts may vary by product and coverage. Frequency and severity trends may be impacted in different ways. Some examples are discussed below.

Frequency – Since much of the labour force is working remotely, reduced vehicle usage and traffic congestion may lead to a reduction of frequency on automobile coverages like bodily injury, accident benefits, and collision. Comprehensive coverage, on the other hand, could see a different trend, such as greater exposure to theft and vandalism. Companies may also observe a decrease in the frequency of personal lines property, fire, theft, and water-damage claims due to insureds spending more time at home. Finally, there is a high degree of uncertainty in forecasting when frequency levels will return to normal, or whether they will ever go back to pre-pandemic levels.

Severity – Increased driving speeds due to less traffic may increase severity of accidents. There is also the possibility that changes or delays in medical evaluations and procedures may impact claims severity on bodily injury or accident benefit coverages. Finally, the pandemic's impact on the global supply chain may result in more expensive parts and repair costs in multiple lines of businesses, with possibly greater exposure to rental replacement costs, additional living expenses, or lost profits.

Actuaries would consider whether the effects of the pandemic are best reflected through trends or a one-time change in frequency or severity level. When conducting a pricing analysis with internal or industry benchmark loss trends, the pricing actuary would understand the assumptions (i.e., whether pandemic impacts have abated or been adjusted) and adjust historical loss cost data accordingly.

There are also considerations around the selection of future loss trends. The pandemic may change lifestyle and driving habits, which may lead to mix-of-business change. In addition, shortages of parts and labour during the pandemic may produce longer-term impacts. The actuary may also consider closely monitoring post-pandemic monetary inflation as it may be a key driver of severity trends for automobile physical-damage coverages.

1.2 Inflationary impacts due to monetary stimulus and supply shocks

To fund emergency pandemic measures, the central banks of various countries, including Canada, engaged in quantitative easing to lower the cost of borrowing and allow governments to run emergency deficits. This had a direct effect on asset and goods inflation. While no one economist agrees on the exact cause-and-effect mechanism, we now see inflation spiking. Inflationary effects will appear at different times for different lines of business, perhaps later in longer tail lines.

For example, courts assign interest costs and may increase pre- and post-judgement interest rates along with the Bank of Canada prime rate. There is also ongoing supply shock as waves of COVID-19 variants occur in different locations at different times. This is causing sporadic scarcity in goods and replacement parts.

Finally, the guidance from the Bank of Canada is that higher inflation may be temporary until normal levels of economic activity return and the monetary stimulus is absorbed. This would mean that projecting higher inflation indefinitely may not be appropriate, and that future trends be closely monitored and adjusted as the situation evolves.

1.3 Premium trends

There are many sources of change in insurance portfolios whose historical impacts would be captured by applying current rate differentials to the experience period, for example:

- Vehicle use – Driving behaviour has changed since 2019 and hasn't returned to pattern. It is unclear if behaviour will ever revert back to pre-pandemic level;
- Territory – migration from urban centres toward rural areas and suburbs;
- Model year/vehicle age/rate group – fewer new vehicle purchases;
- Vehicle price – supply shortage of new units leading to rapid inflation in used-car costs;

- Coverage changes – limits and deductibles;
- Credit score – improvement due to relief measures and cautious spending for some consumers while other consumers have experienced deteriorations; credit bureau algorithms are not adjusted during economic downturns of any type;
- Building limit – large increases in rebuilding costs due to higher-priced lumber and building materials;
- Industry class – some sectors (e.g., hospitality) have been more adversely affected than others, which may have caused increased demand (e.g., delivery); and
- Temporary discounts – premium relief to consumers and businesses were sometimes offered in the form of temporary discounts

1.4 Exposure trend and mix-of-business shift

Personal auto – With the pandemic, the insurance industry saw many exposure changes. The industry saw a significant proportion of customers remove commutes. On top of that, many industries shut down periodically and travel was restricted, further reducing vehicle usage. Will that remain the case, or will mileage significantly increase when the pandemic is behind us? Will the work-from-home or hybrid approach mitigate the longer commute times some people now face with the recent exodus from urban hubs? With the lower mileage and/or different nature of the risk, customers may be more willing to enroll in a usage-based insurance program. By driving less and avoiding the riskiest driving times, they may see more benefits to a telematics program. A significant uptake in miscellaneous vehicles has also been observed. Due to major travel restrictions, people gravitated toward recreational vehicles for local trips.

Commercial – Businesses were broadly impacted. While certain companies experienced a surge in demand for their services (technology, carriers, health), others experienced significant shutdowns (tourism, commercial flights, entertainment, restaurants). There are also cases where companies modified their products to fill demands for personal protective equipment and other pharmacy products, such as distilleries producing hand sanitizer and clothing manufacturers producing masks. As a result, any adjustments to data or selections would need to be reviewed on an industry-by-industry basis, as opposed to making these changes at a portfolio level.

Recreational vehicles – All-terrain vehicles, motor homes, recreational vehicles, snowmobiles, and boats were popular during the pandemic. The influx of new owners and operators could create a large shift in average years of experience for these types of vehicles. The average values and rate groups in the experience data will also be affected, as will average vehicle age.

Homeowners – Many people who were either renting or living in condos in urban centres have opted for larger homes and greener, less-dense communities. Both the location of customers and what type of product they buy (homeowner vs. condo/tenant) changed with the pandemic. Many industries have realized employees can work remotely, which will probably continue this trend. Many people also purchased secondary homes.

1.5 Loss adjustment expenses (ALAE and ULAE)

The pandemic has caused both transitory and permanent change in how claims are serviced. Temporary and quick changes to claims-serving models, staffing levels, and workflows may have to be made to deal with the initial crisis. Some of the temporary changes and solutions may become permanent to adapt to new customer expectations and the competitive environment. Investment in digitization and automation has also accelerated. Efficiency from online claims reporting, first notice of loss, reduced reliance on outside adjusters, and the triaging and straight-through processing of low-complexity claims are expected as a result. The historical loss adjustment expense ratio may not be indicative of future claims adjustment costs.

Like other forward-looking pricing assumptions, actuaries may be asked to determine the appropriateness of pre-pandemic historical expense data to ensure temporary changes in pandemic-period accidents do not distort rates post-pandemic, and, more importantly, to continue assessing the long-term effect of the pandemic on loss adjustment spending.

1.6 Expense and profit provision

Longer claims-settlement times and increased volatility could be considered in reviewing the underwriting profit target. To reflect distributional shifts of risk factors in capital allocation, economic capital models could potentially include this level of granularity. To balance this with parameter risk, we can select the most important variables and levels to form a few risk groups and embed only their distributions. In the case where capital allocation methods are less sophisticated, we can leverage portfolio movement to vary the premium-to-surplus ratio.

2. LOB impacts from a pricing perspective

Depending on business lines and rating-plan specifics, different considerations may need to be made by the pricing actuary. The pandemic’s impacts on various lines of business and associated pricing considerations are discussed below:

- Personal and commercial auto
- Miscellaneous auto
- Personal property
- Commercial property

2.1 Personal and commercial auto

Personal auto – Reduced miles driven during the pandemic may lead to a reduction of driving claim frequencies. The pandemic’s impact on medical evaluations and procedures may change underlying data and trends on injury coverages. Supply shortages may result in higher repair and replacement costs for parts, which could impact physical-damage severity. The pandemic may have triggered a temporary or permanent mix-of-business shifts. As more people work from home, there may be a reduction in daily/annual commuting mileages, along with relocations to suburban/rural areas. Mid-term policy changes and cancellations saw an uptick at the beginning of the pandemic, which should have since stabilized and returned to more historical levels.

Commercial auto – Many factors that impact personal auto may also affect commercial auto. It is important to recognize that different market segments and different types of vehicles may experience different loss and premium trends. For example, most commercial vehicle activity rebounded after a short decrease during the initial phase of the pandemic. Deeper review and frequent monitoring may be needed.

2.2 Miscellaneous auto

Alternative personal vehicles used for commuting and day-to-day driving may experience a reduction in usage. Recreational vehicles, on the other hand, have been increasingly popular as a choice for leisure activities. Motor homes and travel trailers saw double-digit growth in 2020, and the trend persisted into 2021. Original declared value may not be appropriate, especially in settling total loss claims. Average insured value, premium trends, and severity trends of physical-damage coverages may need to be adjusted accordingly.

2.3 Personal property

Personal property saw many changes during the pandemic. Many factors had offsetting impacts. As the population transitioned to working from home, the way we use our homes and the amount of time spent there significantly changed. For example, cooking more meals creates opportunities for incidents like kitchen fires. At the same time, the chance to limit the impacts on severity are also greater. The cost of construction material significantly increased with higher demand (more people buying a new house or renovating their existing property) and supply-chain issues as factories periodically closed during the pandemic. This resulted in higher costs to repair a house and longer repair times. Some people bought cheaper houses, while others bought more expensive ones, and yet others increased their property value by renovating.

2.4 Commercial property

Commercial property has seen extreme shifts from high vacancy rates to surging demand at some locations. Vacant properties are more susceptible to crime and damage. Policies are often endorsed as to this specific use or are classified differently, with associated changes in pricing. This will affect the experience and mix of business observed in the data. There is also ongoing litigation with regards to business-interruption coverage that could lead to repricing or adjustments to policy terms. The actuary would follow these developments and ensure pricing is adjusted appropriately to reflect future estimated costs.

This article reflects the opinion of the committee and does not represent official guidance of the CIA. The committee welcomes feedback and suggestions for future articles.