# MTPL markets in CEE

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## So similar yet so different: A perspective on MTPL markets in selected Central-Eastern European countries

## Introduction and executive summary

**FIGURE 1: POPULATION OF THE VISEGRAD GROUP COUNTRIES**

PL-Poland

CZ-Czech Republic

HU-Hungary

SK-Slovakia



PL 37.9 m
CZ 10.7 m
SK 5,5 m
HU 9.8 m

Source: The World Bank.

The collapse of the Iron Curtain in the late 1980s and early 1990s enabled the three neighbouring Central-Eastern European (CEE) countries of Poland, Hungary and Czechoslovakia (dissolved in 1993 and separated into the Czech Republic and Slovakia) to liberalise their political systems and embrace free-market economies. Despite sometimes diverging interests, the four countries shared the common goal of joining the European Union (EU) and formed the cultural and political alliance known as the Visegrad Group. Since EU accession in 2004, all four countries have systematically narrowed the per capita gross domestic product (GDP) gap to the EU average. In the years 2000 to 2021, Poland and Slovakia grew the fastest among the four Visegrad Group countries, but also started with the lowest per capita GDP level at the outset (throughout this period, the Czech Republic maintained its per capita GDP advantage over the other three countries). In 2021, the Czech Republic per capita GDP reached 92% of the EU average, while Poland, Hungary and Slovakia were in the 68%-77% range. See Figure 2, all numbers adjusted for purchasing power parity (PPP).

**FIGURE 2: 2021 GDP PER CAPITA, PPP-ADJUSTED EU GDP PER CAPITA = 100**
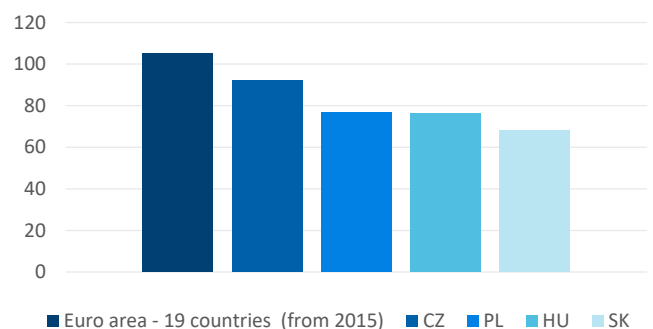


Source: Eurostat.

Growing societal wealth within the Visegrad countries has led to their increased motorization, boosting the sizes of the four motor third-party liability (MTPL) markets. The total MTPL premium written in the Visegrad Group in 2020 was EUR 5 billion, 90% of which was in the hands of seven insurance groups.

Changing social attitudes associated with growing affluence have brought higher bodily injury claim costs, while the increased presence of more expensive cars has driven higher property damage claim costs. Those changes have been more pronounced in the Czech Republic and Poland, but all four countries continue to have lower claim costs than those observed in the most developed EU economies.

Improving road safety has resulted in a decreasing claim frequency trend across the region, with Poland suffering the highest claim incident rate and the highest net risk premium among the four countries.

Privatisation reforms have been undertaken in all four countries, but the subsequent market developments have resulted in Hungary having the lowest level of market concentration and Slovakia having the highest.

Insurers in the Czech Republic and Slovakia collect information on lower numbers of MTPL rating factors than do Hungarian and Polish companies, which creates a potential advantage to be gained from more sophisticated pricing for the new entrants in those markets.

# Market concentration and size

The 1990s revival of the insurance market in the CEE region saw the breakup of the state-owned companies' market monopoly and the gradual alignment of the insurance legislative framework with that of the EU countries. Following market liberalisation, several multinationals entered the CEE market, either as greenfield operations or through acquisitions, and, as of 2022 and across the entire region, the state retains a controlling stake in only one formerly state-owned company (PZU, in Poland).

Looking purely at MTPL business, VIG, Generali and Allianz are the groups that appear most frequently in each country's list of the main insurers by market share, as collected in Figure 3.

**FIGURE 3: LARGEST MTPL PLAYERS BY MARKET SHARE (MEASURED BY GROSS WRITTEN PREMIUM) (2021)**

| CZ | | PL | | HU | | SK | |
|---|---|---|---|---|---|---|---|
| ČESKÁ pojišťovna (Generali) | 27.0% | PZU | 28.7% | Allianz | 27.8% | Kooperativa (VIG) | 29.8% |
| Kooperativa (VIG) | 18.3% | Warta (Talanx) | 21.3% | K&H (KBC) | 15.7% | Allianz | 22.4% |
| ČPP (VIG) | 14.2% | ERGO | 18.6% | Waberer | 10.9% | Generali | 13.2% |
| Allianz | 14.0% | UNIQA | 8.7% | AEGON | 10.0% | UNIQA | 10.6% |
| UNIQA | 11.3% | LINK4 (PZU) | 5.6% | Generali | 9.3% | Komunalna (VIG) | 8.3% |

Source: Solvency and financial condition reports.

The overall market position of insurance groups in the region is driven by the share in each country's market as well as the size of each of the four markets (e.g., PZU is present only in Poland but still holds the top spot among the insurance groups in the region). The market sizes measured by the number of passenger cars are presented in Figure 4, with the difference between Poland and other countries due primarily to a larger population and higher per capita vehicle ratio.

**FIGURE 4: NUMBER OF PASSENGER CARS**
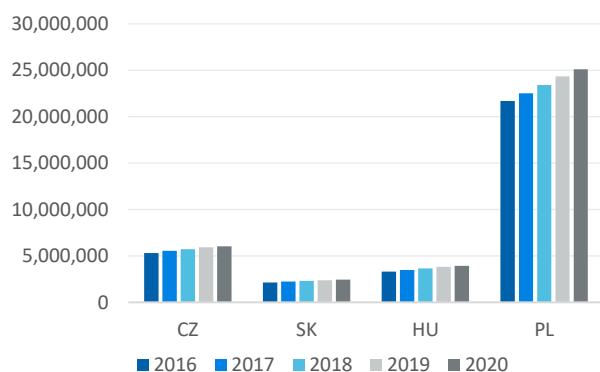


Sources: (CZ) Transport Yearbook 2020, Ministry of Transport, (SK) Štatistický úrad Slovenskej republiky, (HU) Hungarian Central Statistical Office, (PL) POLISH CENTRAL STATISTICAL OFFICE.

The largest MTPL groups in the entire Visegrad region, by gross written premium (GWP), are PZU, VIG and Talanx (see Figure 5). As indicated by Figure 3 above, PZU and Talanx have sizable pieces of the Polish market (the largest in the region) whereas VIG has many companies in each of the Visegrad Group countries.

**FIGURE 5: REGIONAL SHARE IN GWP (2021)**

**SHARE IN MTPL GROSS WRITTEN PREMIUM FOR 10 LARGEST MTPL INSURANCE GROUPS (2021)**

| | |
|---|---|
| PZU (Poland) | 20.0% |
| VIG (Austria) | 16.9% |
| Talanx (Germany) | 12.4% |
| ERGO (Germany) | 10.9% |
| Generali (Italy) | 10.6% |
| Allianz (Germany) | 9.6% |
| UNIQA (Austria) | 9.1% |
| KBC (Belgium) | 4.5% |
| Waberer (Hungary) | 1.3% |
| Aegon (Netherlands) | 1.2% |

Source: Solvency and financial condition reports.

Of the four countries, the MTPL market concentration is the lowest in Hungary, where the top five insurers account for 75% of total MTPL GWP, and it is the highest in Slovakia, where the top five insurers account for more than 90% of the MTPL GWP. This is confirmed by the Herfindahl-Hirschman index (the sum of squared shares of individual companies scaled to 10,000) calculated for the MTPL business, where Hungary and Slovakia are on opposite sides of the spectrum. The index remained relatively flat over the years 2016 to 2021, with the notable exception of the Czech Republic, where the results were affected by the merger in 2020 of Generali Pojistovna and Generali Ceska Pojistovna along with the acquisition of AXA by Uniqa (2021).

**FIGURE 6: HHI INDEX FOR THE MTPL BUSINESS**
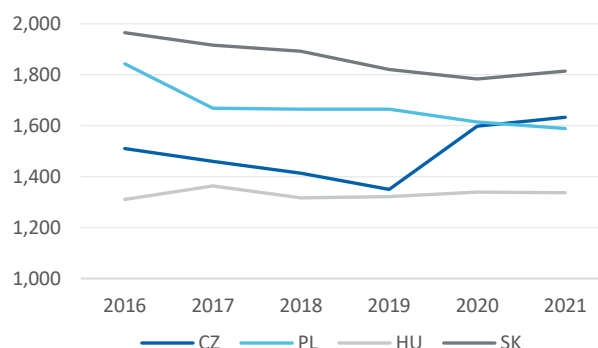


Sources: Solvency and financial condition reports, own calculation.

Judging from the Herfindahl-Hirschman index, the Hungarian market is the most competitive, which is also reflected in the higher degree of pricing sophistication observed in Hungary, creating a challenging environment for potential new entrants. After recent mergers, the Czech Republic reached concentration levels similar to those in Poland, but the range of the rating factors used is not as wide as in Poland, thus opening more possibilities for advantage gained through technical pricing. On the other hand, because of the overall market size, the economies of scale are more likely to play a role in Poland. We discuss this further in the Profitability and Pricing section of this paper below.

## Cost of insurance

The overall claim frequency in the period 2016 to 2019 (calculated as the number of nonzero MTPL claims to the number of policies) has been similar in the Czech Republic and Hungary, converging to levels close to 3% in more recent years, well below the Polish rates, which remained close to 5% over the entire period (see Figure 7). We will cover more recent experience below. In the three countries for which the data was available, a mild decreasing frequency trend has been visible. This leads to Poland having the highest net risk premium throughout the whole period (calculated as the cost of claims to the number of policies), but the spread to the Czech Republic is moderated by the fact that the Czech Republic has consistently had the highest average claim cost among these three countries.

### FIGURE 7: MTPL NET RISK PREMIUM (EUR) AND CLAIM FREQUENCY*
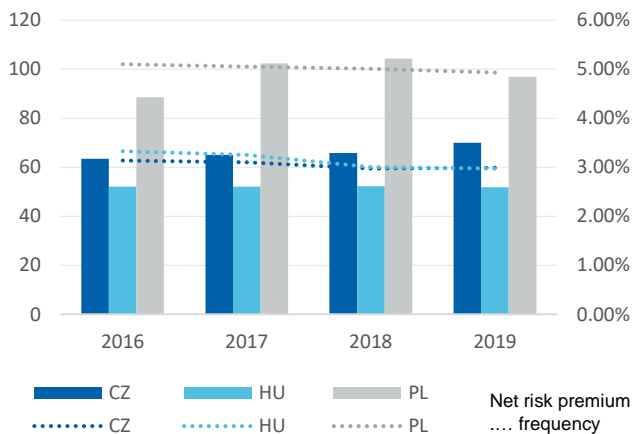


Sources: Czech Insurance Association (CAP), Czech National Bank (CNB), Polish Financial Supervision Authority (KNF), Central Bank of Hungary (MNB), European Insurance and Occupational Pensions Authority (EIOPA).

* Proxy frequency figures may be affected by the inconsistencies between the claim count methods. Factors such as inclusion of zero claims or the treatment of several claimants resulting from one insurance event can affect country comparability.

As indicated in Figure 8, the Visegrad countries tend to have lower average claim costs than some of the most developed EU states, specifically France (FR), Italy (IT) and Germany (DE), even when PPP is taken into account.

### FIGURE 8: 2016 AVERAGE CLAIM COST BY COUNTRY IN EUR*
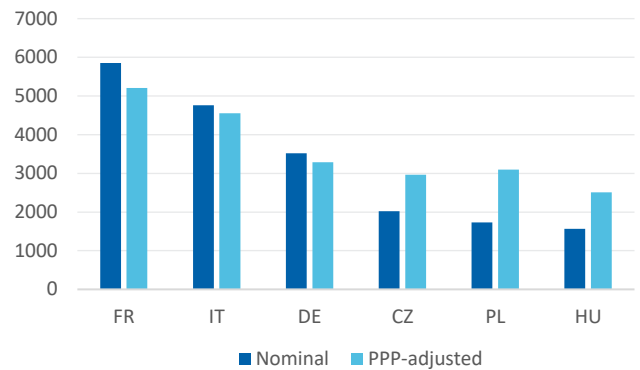


Sources: CAP, CNB, KNF, MNB, EIOPA.

* Average claim cost may be affected by the way the claim count is calculated. Factors such as the inclusion of zero claims or the treatment of several claimants stemming from one insurance event can change the outlook on the per-claim cost and make the statistics provided by different countries not directly comparable.

Factors such as litigiousness, awareness of claim rights, court attitudes, the distribution of values of cars on the road, civil law clauses and lawyer remuneration all contribute to the difference between the Visegrad Group and the EU average, as well as to the claim cost variations within the Visegrad Group. This is even more pronounced in the level of reimbursements for the bodily injury claims, where the socioeconomic environment of each country plays a critical role. Across the Visegrad region, the legal community has been recently more vigilant in pursuing personal injury claims in courts, but, overall, while growing, litigiousness and claim right awareness remain at lower levels than those seen in Western Europe. The general preference in CEE for quicker, lump sum, out-of-court settlements can be partially related to the inefficiencies of the court and legal systems, which lead to long court proceedings and (in some cases) high legal fees.

Some of the most costly claims in Poland and Hungary involve (at least partially) reimbursements in the form of fixed-term or lifelong annuities with no mandatory indexation, whereas, in the Czech Republic, the future loss element is normally settled by an indexed annuity. In order to reduce the volatility of the reimbursements awarded in comparable cases, the Supreme Court in the Czech Republic and the Supervisory Authorities in Poland have provided recommendations regarding bodily injury claim settlements, aimed at standardising their cost.

The deg ree to which the public sector can recover from MTPL insurers its costs relating to motor vehicle accidents varies depending on the country. In Hungary, insurers have to reimburse the state for the cost of healthcare and disability pensions, based on their respective shares of the MTPL market; Czech insurers have to pay for the healthcare cost incurred by the state system; and Polish companies are not obliged to refund any of the bodily injury public sector cost.

Generally, the cost of bodily injury claims has been growing, particularly in the Czech Republic and Poland. This is well exemplified by the development of the pain and suffering claims. In Poland, law firms have been very active in raising

awareness of the right to claim pain and suffering damages in cases where a relative has been fatally injured. Such a right was introduced explicitly into the Civil Code in 2008, but the courts later ruled that it also applies to the pre-2008 events, which led to a surge in late reported claims in 2014 and 2015. At the same time, there were significant differences in the amounts awarded in what appeared to be comparable cases. Subsequently, the Polish Financial Supervision Authority issued recommendations aimed at preventing disparities in the amount of compensation awarded in similar cases, and published statistics concerning the court-settled payments for pain and suffering, depending on the relationship of the claimant to the victim. In the Czech Republic, compensation for pain and suffering relating to the fatal injury of a relative has not been regulated since 2014, but the Supreme Court has specified principles to be applied in settling those claims and the reimbursement ranges.

## Profitability and pricing

The per policy GWPs in the Czech Republic have been slightly increasing in line with the rising claim cost, resulting in flat loss ratios. In Hungary, the GWP growth rate was faster, which, when combined with a relatively flat cost trend, led to falling loss ratios. Consistent with having the highest per policy claim cost, Poland also exhibited the highest GWP per policy over the 2016-2019 period, but the calendar year loss ratios remained the highest of the three countries (as shown in Figure 9). Poland was also the only country where the average GWP dropped (from a peak in 2017), narrowing the gap in the GWP averages between the three countries. Generally, the market underwriting cycles are not aligned across the region, with the market in Poland softening since 2017 and those in the other countries exhibiting the opposite trend.

**FIGURE 9: MTPL AVERAGE GWP PER POLICY (EUR) AND LOSS RATIO\***
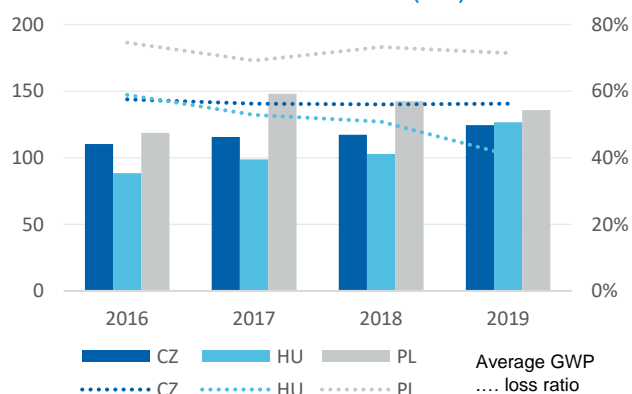


Sources: CAP, CNB, KNF, MNB, EIOPA.

\* Loss ratios are calculated as the calendar year claims to the GWP and can be affected by prior accident year adjustments as well as differences between GWP and the earned premium.

Use of multivariate techniques such as generalized linear modelling (GLM) in pricing is widespread bu t not universal. Some companies have successfully introduced machine learning-based methods, which has shortened the time to market for their MTPL products and has allowed for superior

segmentation as well as more frequent tariff updates. Commonly used rating factors throughout the region include policyholder age, region/location, engine capacity, engine power, vehicle weight, vehicle age, make/model, other policies, fuel type and individual claim history, but the range of information collected for pricing can be much wider, as indicated in Figures 10 and 11, in which we show the data that needs to be submitted in order to receive MTPL price quotes from the local tariff aggregators. The overall number of required variables can give a good idea of general tariff sophistication, with insurers in some countries requiring (among other data) information on mileage, technical inspection, children's age(s), profession or bank name. It has to be noted that the list below may not be exhaustive of the types of variables used as some information can be obtained by insurers indirectly, e.g., by using plate numbers or personal ID data.

**FIGURE 10: INFORMATION REQUIRED BY THE TARIFF AGGREGATORS – NUMBER OF REQUIRED VARIABLES IN EACH CATEGORY**

|  | CZ | SK | HU | PL |
|---|---|---|---|---|
| **Technical** | 13 | 15 | 23 | 19 |
| **Personal-owner** | 8 | 8 | 10 | 12 |
| **Personal-driver** | 0 | 0 | 6 | 5 |
| **Insurance history** | 2 | 1 | 2 | 6 |
| **Additional information (see below)** | 2 | 0 | 6 | 4 |
| **Total** | 25 | 24 | 47 | 46 |

**FIGURE 11: INFORMATION REQUIRED BY THE TARIFF AGGREGATORS – TYPES OF VARIABLES IN EACH CATEGORY**

| Technical |
|---|
| Plate number |
| VIN |
| Make |
| Model |
| Engine capacity |
| Engine power |
| Date of first registration of the vehicle |
| Date of first registration of the vehicle in the current country |
| Fuel |
| Body |
| Vehicle weight |
| Usage |
| Mileage per year |
| Mileage per year (homeland) |
| Mileage per year (abroad) |
| Total vehicle mileage |
| How many days per year is the vehicle used abroad? |
| Does the user of the vehicle travel more than 60 km work (on a weekly basis) |
| The steering wheel on the right-hand side |
| Technical examination successfully completed within the last 180 days |
| Seasonal tire |
| Country of the vehicle first registration |
| Vehicle type |
| Year of manufacture |
| Number of seats |
| Number of doors |
| Vehicle colour |
| Transmission type |

**FIGURE 11: INFORMATION REQUIRED BY THE TARIFF AGGREGATORS –
TYPES OF VARIABLES IN EACH CATEGORY (CONTINUED)**

| Personal-owner | |
|---|---|
| | Owner/policy holder: physical/legal/entrepreneur |
| | Vehicle registered for a company/leasing company/ for self-employment |
| | Leasing flag |
| | Personal ID |
| | Name and surname |
| | Owner's gender |
| | Driver's gender |
| | Owner's marital status |
| | Birthyear/birthdate/age |
| | Owner's zip code |
| | City |
| | E-mail |
| | Phone number |
| | Profession of the owner |
| | Is the owner a retiree? |

| Personal-driver | |
|---|---|
| | Number of children under 26 |
| | The age of the oldest child |
| | Year of birth of the youngest child under the age of 18 |
| | How many young or inexperienced drivers will be driving? |
| | Are there any drivers under the age of 26? |
| | Number of regular drivers |
| | Year of birth of youngest driver |
| | Year of birth of oldest driver |
| | Year of obtaining the driving license |
| | Is the driver disabled? |

| Additional information | |
|---|---|
| | Is the driver or spouse a civil servant? |
| | Current insurer |
| | In which bank do you have your current account? |
| | Premium offered in renewal letter |
| | The period of vehicle ownership by the current owner |
| | Number of co-owners of the car |
| | Is the policy holder the car owner? |
| | Is the driver the car owner? |

| Insurance history | |
|---|---|
| | Bonus/malus grade |
| | Insurance period |
| | Number of accidents caused |
| | Number of accidents caused in designated time periods |
| | CASCO insurance period |
| | Number of CASCO accidents caused |
| | Policies shorter than 10 months or a break in the insurance period longer than 2 months? |
| | When was there a break the insurance period? |

Hungarian and Polish companies collect substantially more data than those in the Czech Republic and Slovakia, which indicates that the competitive advantage to be gained through more advanced technical pricing is more likely to be achieved in former Czechoslovakia. Some Polish companies make use of big data obtaining very granular, machine learning-driven risk segmentation. On the other hand, the Polish market was heavily affected by the depth of the price drops during soft market periods and struggled to achieve profitability in the years immediately prior to 2015.

# COVID-19 impact

The COVID-19 pandemic materially impacted the claim frequency observed by CEE MTPL insurers, adding to the decreasing frequency trend, which had already been present for some time. This was observed in numerous statistics (such as police road injury data shown in Figure 12) and was sometimes associated with an increase in severity, partially offsetting the favourable frequency impact on net risk premium.

**FIGURE 12: NUMBER OF ROAD INJURY ACCIDENTS BY COUNTRY***
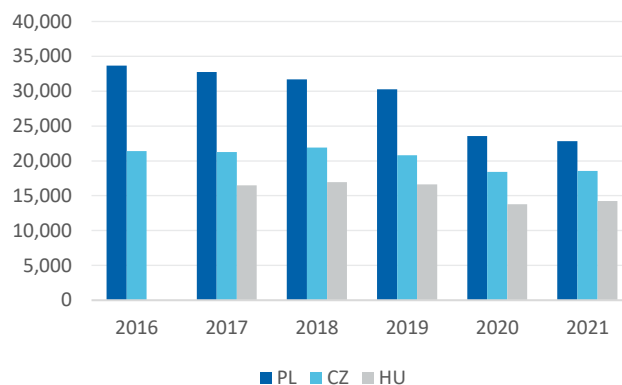


Source: (PL) https://statystyka.policja.pl/, (CZ) https://www.policie.cz/, (HU) https://www.ksh.hu.
* No data for HU in 2016.

Overall, the long-term tendency in reported road casualties in all countries is towards fewer traffic-related deaths and injuries. However, the recent trends have been affected by the various restrictions on travel that were implemented at the beginning of the year 2020 and onwards as a means of limiting the COVID-19 pandemic impact. For the Czech Republic, Hungary and Poland, monthly data covering road traffic injuries and fatalities is available and can be viewed as indicative of the overall impact of COVID-19 on claim frequency and its sustainability. Figure 13 illustrates the monthly variations in traffic-related deaths per 10 000 motor vehicles during "COVID-19 years" 2020 and 2021 compared with the average over the years 2016-2019 (which can be viewed as "typical").

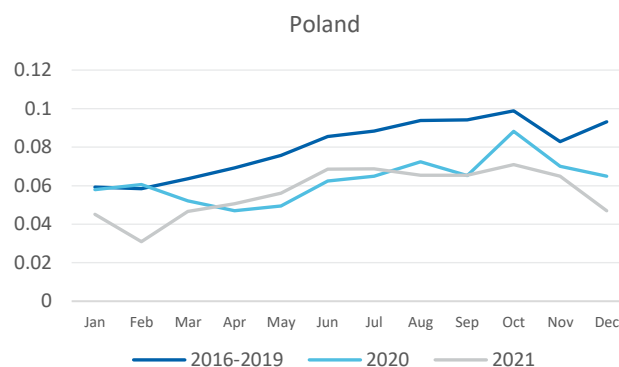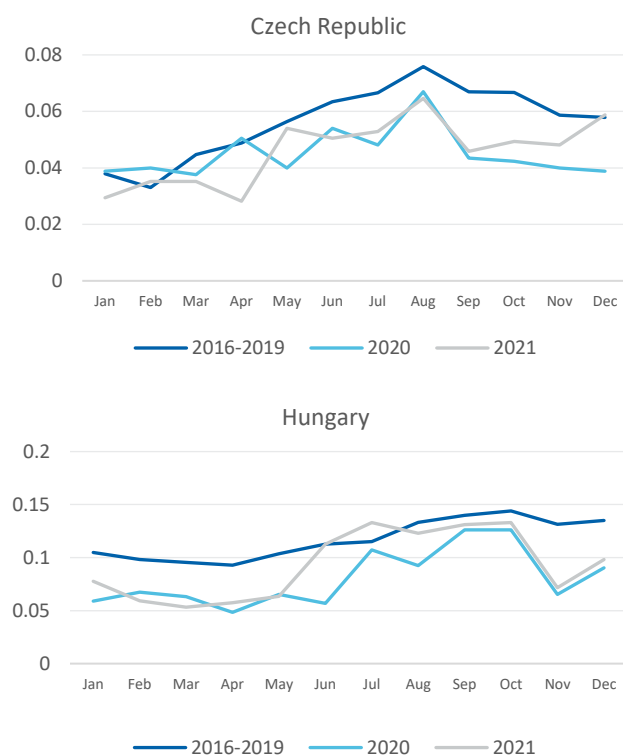**FIGURE 13: FATALITIES PER 10 000 OF MOTOR VEHICLES**

**FIGURE 13: FATALITIES PER 10 000 OF MOTOR VEHICLES (CONTINUED)**

Czech Republic



Hungary



Source: (PL) https://statystyka.policja.pl/, (CZ) https://www.policie.cz/, (HU) https://www.ksh.hu.

Figure 13 shows, on average, a significant drop during the years 2020 and 2021: in the Czech Republic there were 18% fewer casualties per 10,000 motor vehicles compared to previous years; in Hungary the reduction was by 27%; and in Poland it was by 25%. The indicator fell significantly for the first time in March 2020 (Poland, the Czech Republic), coinciding with the beginning of the first wave of the pandemic. The relative relaxation in the COVID-19 limitations in the subsequent months coincided with the seasonal increase in mobility during the summer holiday season, adding to the effect of less severe restrictions. This period of high mobility was followed by the second wave of the pandemic that started between October and November 2020. A slightly lesser impact on traffic-related mortality in the Czech Republic, compared to Poland and Hungary, may be associated with the increase in vulnerable road user deaths (e.g., relating to motorcycle traffic) during the periods with more strict restrictions and lockdowns. Starting from April 2021, due to both the end of the winter period and loosening of restrictions, the return to the long-term average mortality rate can be seen in the Czech Republic and Hungary. It remains uncertain whether the COVID-19 pandemic will leave a lasting impact on MTPL claim frequency, as trends such as avoiding public transport on one hand and the proliferation of remote or hybrid work models on the other would likely have opposite consequences on road traffic and hence on MTPL claim experience. However, judging by the studied indicators, the pandemic effect could be expected to be short-lived. The uncertainty about the long-term effect of COVID-19 has made insurers cautious when accounting for the pandemic impact on their current year reserving positions. This uncertainty will soon be removed as the post-COVID-19 claim frequencies and severities emerge and stabilise.

## Concluding remarks

With growing wealth and regulatory scrutiny, all four countries are likely to continue to experience rising expectations regarding the level of MTPL claim reimbursement. Pricing sophistication and the presence of machine learning-based techniques in MTPL rating is also likely to increase, as insurers will be accumulating large volumes of data and may also gain access to new data sources, such as traffic violations or odometer readings. In order to stay competitive, companies will need to be able to build and manage risk models of substantially increased complexity. Big data methods will also likely affect loss reserving, where they are proving increasingly useful in the area of case reserving and often support claim adjusters in making their loss estimates.

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