



ПРИЛОЖЕНИЕ НА СИСТЕМАТА БОНУС МАЛУС В БЪЛГАРИЯ – КРИТИЧЕН ПРЕГЛЕД И ЕМПИРИЧЕН АНАЛИЗ

д-р Никола Илийчев Илиев¹

IMPLEMENTATION OF THE BONUS-MALUS SYSTEM IN BULGARIA – CRITICAL REVIEW AND EMPIRICAL ANALYSIS

Nikola Iliychev Iliev PhD

***Annotation:** Bonus-Malus System (BMS) in car insurance is an insurance system that adjusts the premium paid by a customer in accordance with their individual claim history. The insurer must collect a higher premium from riskier drivers and lower premium from less risky drivers, instead of an equal premium from all drivers, for reasons of fairness. This creates the perception of a justice in good drivers and a correction stimulus in behavior of bad drivers.*

***Keywords:** Bonus-Malus System, Initial Class, Transitional Rules, Premium Correction*

1. Theory behind Motor Third Party Liability Insurance and The Bonus-Malus System

The fundamental idea behind Motor Third Party Liability Insurance (MTPL) is to ensure that all damages that a driver and/or owner of a vehicle makes to a third party's health and/or property are being covered. This is guaranteed by a policy that the driver and/or owner of a vehicle makes with a non-life insurer in regards to all future accidents and emanating obligations. MTPL is made mandatory in most countries as it pertains to the consequences of free access to personal vehicle driving and usage. MTPL's mandatory status is a form of a financial protection system for both parties partaking in an accident, when the guilty party lacks the solvency to cover caused bodily injuries, emotional distress or property damages.

From the insurer's point of view MTPL is a specific type of business, driven by different factors than the factors of other insurance classes like property insurance, weather and disaster insurance, health and life insurance. In MTPL factors like insurance culture or insurance penetration are irrelevant, as the insurance is mandatory for all possible insured – drivers and/or owners of vehicles. Instead a major factor is market structure and market share, that a company has. Also, as MTPL is renewed annually and claimed during the year, insurers tend to change their policies in regards to technical provisions and claim approval. There's even the argument that MTPL creates a new branch of insurance, independent from life and non-life insurance branches.

¹ Nikola Iliychev Iliev PhD, Risk Manager ORSA, Bul Ins Insurance Company JSC, ☎ +359 (0)89-750-7744 ✉ iliev.nikola1988@gmail.com nikola.iliev@bulins.bg

The Bonus-Malus system (BMS) in MTPL insurance is a system that aims to adjust the premium paid by individual insured drivers and/or owners of vehicles. This adjustment is based on claim history, as follows – insureds with a claim history are riskier than those without and thus have to pay higher than the average premium, while those without are less risky and thus have to pay lower than the average premium.

This way of thought creates the perception of fairness and consequences for one's actions – if you tend to drive in a riskier manner, you will have to pay more. BMS is of key importance for the Bulgarian insurance market, based on two main reasons: to follow European practice – together with Belarus, Bulgaria is the only country in Europe without BMS, but also to fight vicious practices.

2. Bulgarian insurance vicious practices

A major example for a vicious practice is voluntarily taking the blame for an accident between domestic and foreigner insureds. For example, a Bulgarian driver travels abroad and participates in a traffic accident with a foreigner. As the foreigner is insured in an insurance market with BMS, if he is to blame and makes a claim to his insurer, his premium will rise in the following year. But as the Bulgarian driver is insured in an insurance market without BMS, he has no problem taking the blame and not paying a premium increase in the following year. By knowing this, the foreigner has no problem to ask the Bulgarian driver to take the blame for the accident, and even can offer him money – less than the increase of premium, and only paid once, in cash, outside of the knowledge of the insurance companies. Following this the Bulgarian driver not only receives cash from the foreigner, but also can make a claim to his Bulgarian insurer for the damages of his vehicle.

Another vicious practice is a variation of the last one – when two Bulgarian drivers falsify a bilateral protocol for the purpose of „simulating” a nonexistent accident where their two vehicles have suffered damages. Both parties share the blame and make claims to their insurers, who will pay them for repairs, thus transforming the MTPL into a CASCO insurance. As the legal framework in Bulgaria allows for the creation of a bilateral protocol without the participation of road police during all of the proceedings following the accident, drivers have no problem in falsifying their nonexistent accident and/or blame.

A third and further evolution of both examples given above, is the practice of drivers coming from other countries for the purpose of registration of vehicle and acquiring of MTPL insurance from Bulgarian insurers. This gives them the free-pass to not only pay lower rates for MTPL (as premium in Bulgaria is sometimes lower than premium in other European countries) but also to evade BMS premium correction and claim history influence. This often happens with the help of “handlers” that help with the procedure in exchange of money under the table.

3. On the topic of implementation, the road so far

In 2018 popular became the project is „Draft Ordinance on the uniform requirements for the adjustment of insurance premium, depending on the behavior of the driver, covered by the insurance contract for compulsory insurance under Art. 49, para. 5 of the IC”, developed by an external consultant (Ernst & Young Global Ltd.). The document aimed to offer a variant of a system for the adjustment of insurance premium, but essentially having nothing to do with a classical bonus-malus system.

The main reason for this are the different bases on which the premium adjustment is made – in the project the basis are traffic violations and accidents, whereas in the classical



Bonus-Malus System (BMS) the basis are insurance claims. And while there is correlation between accidents and claims – many accidents transform into claims, there is no causation – not all claims result from accidents, like the examples given in vicious practices.

In the presence of a BMS, all claims made to the insurer, regardless of whether they're resulting from an accident or not, will lead to an increase in the risk of the insured, which in turn increases his MTPL insurance's price – the general idea of BMS. The main reasoning behind BMS is the redistribution of total premium the insurer receives between all insured clients – an increase in premium of riskier clients and a decrease in premium of less risky clients.

It is the bonification of less risky clients with good dossier and without a claim history, as well as the chastise of risky clients with a bad dossier and a claim history, is the appropriate transference that simulates drivers' responsibility, reducing its financial equivalent to a more tolerable level. At the center of BMS is the creation of a sense of fairness for the insured – riskier drivers are to pay more and the less risky - less. A secondary effect is the driver's upbringing that a riskier behavior on the road (or outside it, but in regards to MTPL insurance) costs money.

In the classical BME, this is a secondary effect and consequence of premium redistribution, while in the E & Y project behavior is leading, on a par with accidents. The project describes the causal link between violations and premium. Although essential, this is not the insurer's job but of the traffic police, directly responsible for the control of driver behavior. Linking the MPTL premium correction with violations leads omitting traffic police functions on one hand and a double sanction for each violation (by the traffic police and the insurer) on the other.

The above example shows an incorrect perception of the essence and application of BMS. According to Draganov (2018)² „The correct clarification of the essence of the system depends on the success of its introduction into practice. Our impression is that there are too many essential aspects of the system that are not properly evaluated. In order to accurately clarify the essence of BMS, we will use the system definition introduced by Lemaire (1998)³:

Policyholders are divided between a finite number of groups (classes), denoted by C_i ($i = 1, \dots, s$), so that each policyholder's annual premium depends only on his class (where s is the total number of classes);

Policyholders begin in a starting neutral class $C_{i,0}$;

A policyholder's class for a given year is uniquely determined by his past year's class and the number of claims reported during the current year;

The overall bonus-malus system can be determined by its three major elements:

Premium scale $\bar{b} = (b_1, \dots, b_s)$;

Initial class $C_{i,0}$;

Transitional rules – the rules that determine how a policyholder transfers between classes, in result of claims reported.

From mathematical standpoint BMS is a first order Markov chain stochastic process, that has a future development depending only on its present state, but not past history. In other words, BMS cares only for what a policyholder's current class is, but not how he got there.

² Hristo Draganov, DSc (Econ (2018): Specifics of the application of the „Bonus-Malus” system on the Bulgarian Insurance Market, National Round Table „80 years Academic Teaching of Insurance and Social Studies...”, 81-87

³ Jean Lemaire A.S.A., Ph.D. (1998): Bonus-Malus Systems, North American Actuarial Journal, 2:1, 26-38

With the help of a clearly defined BMS, the so-called stochastic process of Markov's first-order chain will allow the insurer to quickly and clearly determine how much the driver's behavior will cost as measured at the price of MPTL. Here, as mentioned above, the measure of driver behavior are only claims, i.e. how often the insured person resorts to the insurer's needs, namely under the insurance policy. Currently, this is relatively common, but following the introduction of BMS, the trend has traditionally been on the downside.

Additionally, there are two main regularities that are observed with the introduction of BMS, namely:

- An apparently inescapable consequence of the implementation of a BMS is a progressive decrease of the observed average premium level because of a clustering of the policies in the high-discount classes. – Lemaire (1998);

- „... through the system, the offered insurance protection of the insured persons who have no registered insurance case in the previous year becomes cheaper. It has been shown that this reduction is between 20% and 40% when introducing the system. The main reason for this is the reduction of the cost of the insurance company - the costs of damage assessment are reduced. - Draganov (2018).

In both cases, there is a reduction - in the first case of the total premium collected, and in the second - of the total amount of administrative costs the insurer makes during the year. Indirectly, it can be concluded that, apart from the administrative ones, the costs of paid damages are also reduced. This should not bother insurers, but on the contrary - calm them, because for the insurer BMC aims at better risk measurement. Whilst the same is associated with a reduction in the total premium collected, this can be overcome both by increasing the average cost of GIs and as a result of the reduction in administrative and damaging costs.

This should not bother and insured - they are interested to have coverage and to pay compensation under the policy when there is actually a guilty damage. Any claim, in the presence of BMS, leads to a justifiable increase in the price of MTPL, which requires both a more careful road behavior and a continuous assessment of the personal consequences of the damage suffered on the future premium of the insured. The emergence of BMS by the insurance industry and society in Bulgaria requires the use of good world practice, implying the link "damage-bonus/malus"; customizing the guilty party's claims; system entrance, system scale, and system transitional rules that comply with the transparency, neutrality, and efficiency requirements of BMS.

4. „Some secrets from the kitchen”

Having gone through attempts to implement the Bonus-Malus System, the Bulgarian Insurance Market has come to a halt after the unsuccessful proposition of E&Y. Following this, there was the idea of creating a team of specialist of different backgrounds for the purpose of constructing the general framework of a BMS and its incorporation in the Bulgarian Insurance Market. The team included specialist from insurance market – Bul Ins IC JSC, EuroAmerican IC JSC, Broko Ltd., the academic life and universities – D.A.Tsenov Academy of Economics, High School for Insurance and Finance, T.Kableshkov High School of Transport, Bulgarian Academy of Science, and also the government – the FSC and the Road Safety Agency.

During the period from January to April 2019 the team discussed and constructed a general framework of the Bonus-Malus System, as close to the general idea behind BMS as possible, but also easy to implement in the Bulgarian Insurance Market. Following meeting with the FSC, the team has transferred the ball to the institutions and as everybody else interested, is waiting for what comes next ... will there be BMS in Bulgaria or not.