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Defeating automotive security systems and exploiting rules of law as the *modi operandi* of car thieves

Abstract

Electronic anti-theft security systems have been installed in cars for more than 20 years. Despite technological development and ever newer anti-theft car security devices, criminals continue their efforts to defeat all kinds of obstacles with the intention to unlawfully take possession of property. If they want to steal modern cars, thieves must demonstrate proficiency in electronics rather than mechanics, for unlocking and starting motor vehicles is today controlled by electronic systems. This paper presents the main methods of car theft, as well as measures to prevent it. Further in this paper, the author presents how thieves exploit rules of law and discusses a *de lege ferenda* proposal to improve Article 289 of the Penal Code by clarifying the length of time for which property may be possessed by an unauthorised person for that act to be considered as property taking and not a theft or burglary.

Keywords: theft, car, burglary

Introduction

Car thieves use various methods to commit prohibited acts they are specialised in while either not being held criminally liable or risking a relatively small penalty

at worst, such as e.g. three months of imprisonment, after which they can continue their criminal activity or involvement in it, in the event they are members of criminal groups. Special circumstances of car theft are created by poor security mechanisms, which *de facto* allow thieves to steal any car, even the most prestigious and expensive ones. Important factors exploited by car thieves also include legal loopholes, such as the notion of taking a motor vehicle with the purpose of using it for a short period of time or a penalty only for removing, falsifying or altering car identification marks compared to zero punishment for the possession of such marks, in addition to the marks of cars owned by the person concerned. Defeating automotive security systems and exploitation of rules of law by car thieves are possibly the most serious factors which influence the threat of automotive crime, in addition to such other factors as the desire to make significant profits and the thief's ability to use the victim's carelessness.

Defeat of automotive security systems by car thieves

Even motor vehicles as old as 20 years are fitted with security systems in the form of immobilisers, which are electronic safeguards against starting a car by an unauthorised person. Immobilisers are electronic codes embedded in the memory of a specific device, e.g. a modern car key. Their more recent versions do not even require any physical interaction between the transponder and the electronic system, thus allowing remote start of the vehicle (for this purpose, they have the form of proximity devices). Activation of the code in the key or another device initiates an interaction – either a physical or proximity contact (as with bank cards during so-called “contactless payments”) – with the transponder, leading to a flow of data which allows the holder to start the car. The car can be started if the information read by the control device is verified as matching the code. The immobiliser then sends appropriate feedback information to the key or another device, depending on how the security system works, thereby initiating the computation process in the transponder.¹ If the code (signal) is the same in the control device and the transponder, the vehicle is started. If the automatic verification process identifies that the key is sending a different signal, not only will the car not be started, but it will also be effectively immobilised, e.g. by ignition shutdown or closure of fuel supply to the engine. Despite such safeguards, increasingly more modern immobiliser generators fail to prevent car theft.

¹ Radkowski, S. and Biskup, K., *Systemy antywłamaniowe w pojazdach*, “Studies & Proceedings of Polish Association for Knowledge Management” 2011, No. 47, p. 257.

Contemporary buyers tend to engage in transactions which lead to the purchase of goods which are most often both aesthetic and functional. Modern-day consumers are guided by visual impressions and assessment of the usefulness of specific solutions, even when making the decision to buy a car, and, also in Poland, are ready to spend significant sums of money for this purpose. More and more often, they purchase aesthetic cars fitted with functional solutions and state-of-the-art technology, even smart systems which support car performance and increase driving comfort. Despite this, they normally cannot buy a car fitted with anti-theft security systems which cannot be defeated by car thieves. Among the examples of the risk of faulty performance of security mechanisms which overly rely on technology – compared to what car thieves are able to do – are systems which unlock cars without the need to actually use a key, known as keyless systems.² A car thief who wants to get inside a car fitted with such a system does not have to have any mechanical devices to unlock or start it. A specially designed hacking system is enough. In the lingo of Polish police, this method is called “a briefcase job” (*na walizkę*), because the thieves bring with them a briefcase-like device which contains all the tools they might need to unlock the car, including hacking software allowing the user to intercept, read, record and then replicate the signal sent by the car key to the car’s computer system in order to unlock the door. Approaching the target car, criminals equipped with such a device are able to use the software to emit the correct signal in order to unlock the vehicle. They can also start the engine. The only effective defence against this type of offence is for the car owner to secure the key or any other device which normally sends the unlock signal to the car’s computer system. If the device is stored at the car owner’s home in a way that shields the signal, e.g. in a metal box or wrapped in aluminium foil, the thieves might not be able to identify the right code (signal) required to unlock the car. The key (device) will then be protected against any attempts at retrieving the signal from it. However, relatively few drivers and users of motor vehicles realise that such security measures are advisable.

The aforementioned method keeps evolving. At present, automotive criminals more often rarely need briefcase-size devices to defeat the security system of a vehicle selected as a target of theft, and they increasingly more often use small portable amplifiers of signals transmitted between the car’s software and the key. A system of this type amplifies and extends the range of the signal, thus allowing the user

² Wróbel, P., *Testujemy system KeylessGo – czyli, jak łatwo stracić samochód*, 24.11.2016, Auto Świat, <https://www.auto-swiat.pl/porady/eksploatacja/testujemy-system-keylessgo-czyli-jak-latwo-stracic-samochod/r6clfbq> (accessed 9.09.2019).

to extract, intercept, record and replicate it in order to unlock the vehicle.³ Such signal amplification makes it possible to even unlock a car with the key located far away. Using this method, car thieves do not have to use any cryptographic keys or have any advanced IT knowledge. To perform their criminal activities, they use devices available on the so-called “black market” or, in many cases, software systems available outside Poland. This same method allows them to start the car, as the warning that there is no key in the ignition does not normally entail shutting down the engine. The popularity of keyless security systems – they are fitted in, among others, different models of Audi, BMW, Citroen, Ford, Hyundai, Kia, Land Rover, Mazda, Mercedes, Mitsubishi, Nissan, Opel, Peugeot, Renault, Skoda, Suzuki, Toyota, Volvo, Volkswagen, as well as in Alfa Romeo Giulia, Fiat 124 Spider, Honda HR-V, Infiniti Q30, Jaguar F-Pace, Lexus RX450h, Seat Ateca, Subaru Levorg and Tesla S P85 – enables car thieves to steal virtually any make of car with the use of universal methods.

The availability of low-cost systems which amplify the signal between the car key and the software installed in the vehicle has become a major problem for car owners and law enforcement agencies. While the first systems of this type required significant financial investments, the ones available on the market at present can be purchased at a low price. Such systems can also amplify signals at increasingly longer distances. In the past, defeating keyless safeguards required placing a hacking system within up to 100 metres from the key and the car selected for theft, whereas now these systems are effective at much longer distances. One factor which can prevent thieves from attempting to steal a vehicle fitted with a keyless system is for the owner to deactivate it upon request at the car dealership. Persons who know how the system works can do it themselves by switching off the right fuse. The most provident car owners hire car garages to create extra safeguards, e.g. ignition shutdown systems. Such measures are likely to be effective, as car thieves normally try to start their chosen car as fast as possible and drive away, and they consider extended engine start time as a major obstacle which generates excessive risks. In this light, even if they start stealing a car, they will resign if they consider that the whole operation is taking too long.

Automotive criminals can also defeat safeguards in cars which do not have any keyless systems. In cars which are unlocked by key-activated central locks, they use so-called “repetition attacks” to defeat car security systems. In this case, signal amplification is irrelevant. What is important is to register and recreate the

³ Szypulski, P., *Dlaczego nowe auta tak łatwo ukraść?*, 20.05.2015, Auto Świat, <https://www.auto-swiat.pl/porady/eksploatacja/dlaczego-nowe-auta-tak-latwo-ukrasc-zrob-to-sam-sprzet-dokradziezy-aut/3pmce8f> (accessed 9.09.2019).

unlocking code. These codes change, and the hacking software relies on a system which records the code transmitted by the key to unlock the vehicle and simultaneously jams it so that it cannot reach the car's door control software on the first attempt. When the owner tries to unlock the door with the key the second time, the code is jammed again, but the previous code is transmitted as a result of the hacking system's operations. This gives the thieves an advantage in that they have the next door unlocking code.⁴ The car owner is unable to realise this; the more so as the car door opens whenever activated by the key.

Using a special device, automotive criminals can also conduct so-called "key computation attacks". These consist in recording the car door unlock signal and analysing it in order to extract the key which determines consecutive unlock codes. This type of attack is similar to the repetition attack mechanism and can also be employed to unlock vehicles without a keyless system. For such an attack to be successful, a criminal might need to record several attempts to unlock the car by its owner. Therefore, the thief tries to jam the signal several times in order to record its different variants.

There are increasingly more refined hacking devices appearing on the market which allow, in fact, the stealing of any car. Among the greatest threats to car owners is one which contains software able to unlock a car's central lock and disable its anti-theft safeguards. After disabling the safeguards, criminals define a new door unlock signal themselves. Advanced and quick decoding systems used by automotive criminals are available, in particular, in Russia, Bulgaria and China. Systems of this type can cost as much as EUR 10,000, but there are also decoding platforms which require much lower investments.⁵ The functioning of such systems, and their usefulness to car thieves, most often consists in the ability to record and use electronic key information from the memory of the devices which protect the car against unauthorised start (immobiliser).

The ability of car thieves to defeat car security systems leads to the situation where car theft accounts for a large part of prohibited acts and where law enforcement agencies have difficulties in preventing them, combating automotive crime and recovering stolen vehicles. Combined with other car theft methods used by criminals, particularly ones that allow them to use drivers' inattention, and also in combination with the exploitation of the existing rules of law, the process of

4 Żuczek, M., *Tego lepiej nie kupuj! Najczęściej kradzione samochody w Polsce*, 16.03.2017, Automator, <https://automator.pl/blog/najczesciej-kradzione-samochody-polska/> (accessed 9.09.2019).

5 Zieliński, R., *W stolicy kradną głównie auta japońskie. W reszcie kraju niemieckie*, 25.07.2019, TVN24, <https://www.tvn24.pl/wiadomosci-z-kraju,3/kradzieze-samochodow-2019-warszawa-i-inne-miasta-polski-statystyki-i-marki-kradzionych-aut,955660.html> (accessed 9.09.2019).

defeating car security systems forms the core of a major social problem posed by automotive crime.

Exploitation of rules of law by car thieves

Organised criminal groups, as well as individuals who steal cars, try to exploit the existing rules of law. The reasons for such behaviour arise mainly from the fact that the criminal legislation lacks penalties for possession of identification marks of cars which belong to someone else, as well as from opportunities granted to automotive criminals by the regulation on taking someone else's car with the purpose of using it for a short period of time (which is independent of the offence of stealing a car).

Law enforcement agencies and justice institutions are considering new perspectives of combating automotive crime by *inter alia* eliminating vulnerabilities of the car registration system. This reduces the risk of car theft, the more so as automotive criminals draw the greatest profits from selling stolen cars, which must first be legalised to be put on the market again, which in turn requires registering them. The applicable rules of law regulate that every vehicle should be registered and have an owner. However, criminals exploit loopholes to obtain registration certificates by e.g. arranging with a person who intends to scrap his or her car to give them the car's registration certificate in return for cash. The detection rate of offences of this type is low, and a penalty for a person who is willing to cooperate with car thieves is not inevitable.

However, legalisation of stolen vehicles more often requires forging documents or committing other prohibited acts than just exploiting loopholes. Greater opportunities of exploiting rules of law are available to automotive thieves when they steal cars to sell their parts. Most importantly, they are able to exploit the lack of regulations that would oblige car manufacturers to put nameplates, serial numbers and unique VIN numbers on most or all car parts. In this context, most stolen low-cost cars and a great number of stolen non-luxury vehicles are disassembled and sold in parts. Criminals disassemble stolen cars and advertise their parts, even in public – in automotive press and on Internet portals. Stolen cars are most often disassembled in so-called “chop shops” – secret bases of automotive criminals which allow them to keep a low profile. Efficient automotive criminals are able to completely disassemble a stolen car in a matter of hours. In their efforts to combat such activities, law enforcement agencies are trying to convince car manufacturers to put marks on various car parts which are unique to only one specific car. This allows law enforcement agencies – e.g. after a specific chop shop is discovered – to more easily establish whether the disassembled cars were stolen. However, even if law

enforcement agencies find a chop shop together with disassembled vehicles, they must prove that individual car parts come from theft, and if experts in mechanoscopic examination are unable to establish the removed car part numbers, then such parts are returned to the chop shop's owner. In order to hold fences criminally liable, law enforcement agencies must prove that they removed marks from the individual parts of a stolen car.⁶ Otherwise, the fence escapes criminal liability, even if his or her accomplices may be charged with e.g. car theft. A particular loophole is created by Article 306 of the Penal Code, which regulates that whoever removes, alters or falsifies identification marks, date of manufacture or date to which a product or equipment is fit to use shall be subject to penalty.⁷ However, the provision ignores the matter of criminal liability of persons who possess e.g. significant amounts of parts of different cars, with or without identification marks, even if they are unable to demonstrate the sources of origin of those parts. Law enforcement agencies are making efforts to bring about an amendment to the provisions of law and are appealing to the legislator accordingly.

Car thieves also exploit other rules of law. The fact that criminals invoke the taking of a motor vehicle with the purpose of using it for a short period of time, i.e. Article 289 of the Penal Code,⁸ is a special case of such exploitation. After stealing a car, the thief can park it in a public place which is frequented by other people and, most importantly, easy for criminals to monitor. The crime group thus gains some time, e.g. several days, to verify whether anyone would try to recover the stolen vehicle. If no one appears to recover the car over that time, the criminals take it to their chop shop and disassemble it there. This allows automotive criminals to *inter alia* avoid the risk associated with positioning systems which might be installed in stolen cars. They can also use GPS detectors to disable such systems. Leaving a car for a short time in a public place allows criminals to escape criminal liability for stealing the car. This is possible because they can invoke Article 289 of the Penal Code, which regulates that taking someone else's motor vehicle with the purpose to use it for a short period of time is subject to the penalty of deprivation of liberty for a term of between 3 months and 5 years.⁹ Taking into account that this prohibited act is considered less serious than car theft, and considering the relatively lenient approach to sentencing on the part of courts, one should conclude that automotive criminals – thanks to this regulation and the ability to behave in a way that directs

6 Ibidem.

7 Act of 6 June 1997 – Penal Code, Dz.U. (Journal of Laws) 1997, No. 88, item 553 as amended, Article 306.

8 Ibidem, Article 289.

9 Ibidem, Article 289 § 1.

interpretations made by law enforcement agencies and courts at that regulation – are in fact able to escape criminal liability for car theft.

Taking someone else's motor vehicle with the purpose of using it for a short period of time may, however, entail the risk of a higher penalty than normally provided for this type of prohibited act. This is the case if the perpetrator uses any technique to defeat the car's safeguards protecting it against unauthorised use, if the perpetrator takes a car representing property of considerable value or when or if the perpetrator subsequently abandons the vehicle in a damaged condition or in such circumstances that there is a danger that the vehicle, its parts or contents will be lost or damaged. In such situations, the perpetrator is subject to the penalty of deprivation of liberty for a term of between 6 months up to 8 years.¹⁰ The penalty may be even higher if the person who committed the offence of taking a motor vehicle with the purpose of using it for a short period of time committed that offence with the use of violence or threatened the immediate use thereof, or by causing a person to become unconscious or helpless. In such situations, the perpetrator is subject to the penalty of deprivation of liberty for a minimum 1 year and a maximum 10 years.¹¹ Regardless of the circumstances of taking the vehicle, the perpetrator may additionally be subject to a fine.¹² However, if the act of taking a motor vehicle is committed to the detriment of the next of kin, the prosecution shall occur on a motion of the injured person.¹³

Although aggravated types of taking a motor vehicle, i.e. burglary, taking a vehicle representing a property of considerable value, abandoning the vehicle in a damaged condition or in such circumstances that there is a danger that the vehicle, its parts or contents will be lost or damaged, and robbery, provide for increasing the penalty for the act, this does not mean that criminals have limited possibilities of intentional invoking of the offence of car taking in order to escape the criminal liability for car theft. Since car thieves, especially members of organised criminal groups, have good knowledge of the regulations regarding penalties for car taking and car theft, they are able to simulate the prohibited act of car taking, and in its standard form for that matter, in order to escape the penalties which could effectively discourage them from offending. To this end, criminals use their knowledge of key criminal regulations, as well as courts' sentencing practices. Since taking a motor vehicle is categorised as "a misdemeanour" (as is car theft), it is

10 Ibidem, Article 289 § 2.

11 Ibidem, Article 289 § 3.

12 Ibidem, Article 289 § 4.

13 Ibidem, Article 289 § 5.

a prohibited act of a lesser calibre than “a crime”. At the same time, car taking – as a misdemeanour – is a prohibited act which is more serious than a petty offence, which is merely a socially harmful act but not an offence. A non-aggravated type of taking is subject to the same penalty as theft, regulated under Article 278 of the Penal Code, in accordance with which: “Whoever, with the purpose of appropriating, wilfully takes someone else’s movable property shall be subject to the penalty of deprivation of liberty for a term of between 3 months and 5 years”.¹⁴ Therefore, simply through comparison of the penalties for car taking and car theft, it is clear that automotive criminals cannot use any legal loophole to their advantage in order to create a belief that they deserve a lower penalty. However, the fact that they do try to invoke car taking, not car theft, is based on different premises. The first one is the social perception of these acts. Car taking is perceived by the public as an act which is clearly less harmful than car theft. Car taking leaves the owner able to recover the car relatively quickly. Car theft does not provide such possibilities, as it is normally related to the intention to gain profits by the perpetrator and often also by the commissioners of the theft, if the thief commits offences e.g. for an organised criminal group. The perception of the scale of harmfulness of the two prohibited acts, i.e. car taking and car theft, translates into the sentencing practice, which is another premise which allows car thieves to escape criminal liability for theft. Courts are guided by the public harmfulness of acts committed by their perpetrators and how individual acts are perceived by the public. In this light, perpetrators of car taking most often receive lower penalties than perpetrators of car theft. The third premise behind the loophole exploited by car thieves is that the Penal Code provides a lower penalty for car taking than for burglary. Many offences of car theft involve burglary, and the penalty for burglary is minimum 1 year and maximum 10 years of deprivation of liberty. This penalty is stated in Article 279 of the Penal Code.¹⁵ The penalty for theft with the use of violence, with the threat of immediate use of violence or for theft involving causing a person to become unconscious or helpless is even higher. Under Article 280 of the Penal Code, such acts are subject to the penalty of deprivation of liberty for a period of minimum 2 years and maximum 12 years.¹⁶ Faced with these penalties, criminals clearly prefer to invoke car taking with the purpose of using it for a short period of time, even if they should be sentenced for car theft.

Although the aforementioned loophole is not unknown, it is difficult to eliminate. A prohibited act in the form of taking a car with the purpose of using it for

¹⁴ *Ibidem*, Article 278 § 1.

¹⁵ *Ibidem*, Article 279 § 1.

¹⁶ *Ibidem*, Article 280 § 1.

a short period of time can be committed only with intent. This arises from the nature of this type of offence. However, this circumstance does not increase the penalty which may be imposed for committing it. Courts – even if the perpetrator of a prohibited act has defeated the car’s safeguards and has driven away or used the car for a period of time which is in fact not defined precisely (although it must be short, for only this word is used in the provision regulating the offence of car taking) – may interpret the offence as car taking. In determining the severity of the penalty for car taking, it is irrelevant that the perpetrator did intend to commit the act of taking, i.e. intended to commit an offence or alternatively predicted committing a prohibited act, but despite this, he or she decided to take the car anyway. The intent for the prohibited act of car taking has been taken into account by the legislator, who – providing the penalty of up to 5 years of deprivation of liberty for car taking (for non-aggravated types of car taking) – determined that this act may be committed only with intent. Criminals often intentionally try to demonstrate the intent behind their actions. However, they try to induce the court to interpret the event in a different way than what actually happened. The main tool used by criminals to this end is to leave a stolen car in a public place for a short time with the intention to return to it if law enforcement agencies do not react. Any reaction of law enforcement agencies resulting in the prompt return of the vehicle to its owner (which is their responsibility) in fact entails the necessity to interpret the prohibited act as car taking. However, as argued by representatives of law enforcement agencies, criminals would in many cases return to the cars they left in public places in order to drive away and then sell the cars or otherwise profit on the theft (which often involved burglary). In this way, automotive criminals simulate that they did not intend to permanently appropriate property, but only use it for ad hoc purposes over a short period of time.

Taking a motor vehicle with the purpose of using it for a short period of time is also a challenge, because aligning the penalty for this prohibited act with burglary – i.e. increasing the minimum penalty for non-aggravated taking (which could solve and disable the loophole problem) – would result in a situation where the minimum legally possible penalty for taking would be higher than the penalty for theft. The legislator cannot allow itself to make such an error, as this would inevitably lead to increasing the feeling of social injustice, thus undermining the public trust in law. Introducing such an amendment could bring results opposite to the expected and make it even more difficult for courts to impose objective penalties on criminals for their prohibited acts. This solution would also entail the creation of another legal loophole, probably even more serious in terms of consequences. This is why the legislator is obliged to seek other methods of improving the applicable law.

The problem of automotive crime, which is a major nuisance and disruption to the public, requires that various solutions should be taken into consideration. In the debate between representatives of the justice system, law enforcement agencies and the legal community, the issue of taking a motor vehicle with the purpose of using it for a short period of time was considered as *inter alia* the heritage of the previous system, in which the Act of 20 May 1971 on the Code of Petty Offences included the notion of “wilful use of someone else’s movable property”.¹⁷ Wilful use of someone else’s movable property, regulated under Article 127 § 1 of the Code of Petty Offences, was a petty offence in which the perpetrator used someone else’s movable property for his or her own purposes without any permission from that person or from a person holding a legal title to manage that property (or any other title e.g. arising from social norms). As it was regulated, the perpetrator of wilful use of someone else’s movable property did not intend to permanently appropriate that property but wanted to use it temporarily. The perpetrator was allowed to take or manage the property which he or she had gained, even legally, but was not allowed to use that property. An example of a situation, which – as long as the 1971 Code of Petty Offences remained in force – involved wilful use of someone else’s movable property, was driving a car by an employee of a car garage to which that car was delivered for repair, where the owner of the car had not given his or her consent for the garage’s workers to drive his or her car for purposes other than repair of the car. Most often, it was assumed that wilful use of someone else’s movable property could take up to several hours. If the perpetrator used someone else’s property for longer than several hours, he or she ran the risk of being charged with appropriation of property, not wilful use movable property. Appropriation of property was penalised in connection with the prohibited act of appropriation, which was subject to more severe penalties than wilful use of someone else’s movable property; it also had a completely different status – it was an offence, not a misdemeanour. Wilful use of someone else’s movable property concerned all goods, regardless of their value, provided that the perpetrator used them, albeit without any consent from the owner or another person entitled to manage the property. Wilful use of someone else’s movable property was subject to the penalty of a fine or reprimand, and the prosecution occurred upon the motion of the injured person.

Although the penalties for taking a motor vehicle with the purpose of using it for a short period of time are clearly more severe than the penalties which used to apply to wilful use of someone else’s movable property, the problem of automotive

¹⁷ Act of 20 May 1971 – Code of Petty Offences, Dz.U. (Journal of Laws) 1971, No. 12, item 114 as amended, Article 127 § 1.

crime is much more serious today. This is due to intensive economic transformations which, in addition to bringing mainly social advantages, also create new types of risks. There are many more cars today than there were in the past, and automotive criminals are far better organised. There is also the temptation to easily make larger profits where there is a possibility to escape criminal liability for offences through which such profits can be made. This is why even clearly more severe penalties do not deter criminals from committing an offence.

Representatives of the justice system and law enforcement agencies, as well as representatives of the legal community, are discussing the advisability of maintaining the independent status of the prohibited act of taking a motor vehicle with the purpose of using it for a short period of time. This offence could be merged with another offence, e.g. theft or burglary. However, such a solution could prevent or significantly hinder penalising persons with respect to whom car appropriation could not be proven and could also, depending on the content of the regulation, produce the assumption that every act of taking should be treated as appropriation, which could in fact align penalties for acts of differing public harmfulness. One must certainly take into account that taking a motor vehicle with the purpose of using it for a short period of time is not only a factor which addresses past criminal law practices, such as wilful use of someone else's movable property, but it is also a form of so-called "substitute penalisation", which provides for differentiating between prohibited acts based on their social harmfulness and differentiating between specific circumstances of prohibited acts, and for penalising perpetrators with respect to whom it cannot be proven that they appropriated cars with the intent to draw financial benefits. Thanks to this, the Polish criminal law is able to minimise the risk of car theft, as it provides for deprivation of liberty even for taking a vehicle.

Conclusion

Defeating automotive car security systems and exploitation of the rules of law are employed by car thieves, because they are effective and difficult to prevent. The problem can be solved only through significant upgrades to safeguards used in cars, promotion of knowledge about automotive crime and improvements in the law aimed at reducing the loopholes exploited by perpetrators of criminal offences. The law prevents penalising people on the basis of a presumption of guilt. On the contrary, there is a presumption of innocence until the defendant's guilt is proven and the final sentence is passed. This is one of the greatest premises of progress in the field of law, for it reduces the risk of penalising defendants who are not guilty.

Criminals, in particular car thieves, are able to exploit the existing legal solutions. For example, they invoke taking some else's car with the purpose of using it for a short period of time, whereas, in fact, the car was stolen (or, alternatively, burgled). This is why it seems justifiable to amend Article 289 of the Penal Code by clarifying the current definition of the premises of this criminal act and, most importantly, by clarifying the length of time for which a vehicle may be taken by an unauthorised person for that act to be considered as taking and not theft or burglary. This will provide for enhancing public safety and potentially curb automotive crime.

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