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ABSTRACT *Many requirements, basic principles and expectations are expressed towards the public administration of democratic states, but it is a key issue that public administration must work properly and fulfil its functions for those who get in touch with it (primarily clients) in a satisfactory manner. The same concept is revealed in Zoltán Magyary's statement that public administration must operate in a way that "parties, whose rights or interests are affected by the operation of public administration, should not find mistakes in it; moreover, they should not be afraid of mistakes or presume the existence of such".[1] It does not need further clarification that it is the legal remedy system of public administrative proceedings that serves the elimination of clients' mistrust towards public administration offices and the correction of potential mistakes. Magyary's other statement that "the rule of law endeavoured to protect the individual against public administration as much as possible" is also correct; therefore the methods of public administrative legal remedies are constantly in change. Since the currently ongoing recodification of public administrative proceedings in Hungary aims to put the system of legal remedies in public administration on a new basis, I wish to discuss the most important conceptual changes here.*

KEYWORDS *rule of law, Fundamental Law of Hungary, public administration, legality, administrative court*

1. The principles of the rule of law and public administration in action

The principle of the rule of law, in its most widely accepted sense, means the primacy of law over the functioning of a state and, in particular, that in a constitutional state "the law provides scope and form for exercising the state's powers".[2] The rule of law in the modern sense evolved in the process

[1] Cf. Zoltán Magyary, *Magyar közigazgatás [Hungarian Public Administration]* (Budapest: Királyi Magyar Egyetemi Nyomda, 1942), 612.

[2] For a detailed analysis of the principle of the rule of law, see József Petrétei, *Magyarország alkotmányjoga I. Alapvetés, alkotmányos intézmények [Hungary's*

of political and social changes, and it appeared as a concept of law imposing restrictions on the state in the late 18th century.[3] Without going into a detailed discussion of the matter, I agree with the view that the concept, and the appearance, of the rule of law can be considered as the outcome of a long process, rather than associated with a given moment in history. First, what is called the liberal concept of the rule of law emerged, fundamentally formulating the need to build up such state structures that are based on the protection of citizens against the state and on the limitation on state intervention.[4] The concept of the rule of law can be construed both in formal and material terms.

The rule of law in the formal (narrow) sense means such state organisation wherein the observance of procedural rules is the prevalent criterion. In this approach, laws are made in pursuance of the procedure described in the fundamental law, and the application of law acts in accordance with the letter of the law, which may, however, lead to injustice in certain cases despite the formal observance of the legislation.[5] Thus, bitter historical experiences in the 20th century led to the need to further develop the formal concept of the rule of law, as a result of which the concept was fundamentally modified in two directions. On the one hand, the need to fill the rule of law with new content resulted in the formation of what is called the material concept of the rule of law, and on the other hand, the demand for moving the liberal concept towards a social direction led to the social approach of the rule of law. The concept of the rule of law in the material (broader) sense represents the filling of the formal definition with content. This means, on the one hand, the declaration of fundamental rights (particularly, personal and political freedoms) in the constitution, and on the other hand, the requirements that the state also has to respect such fundamental rights and shape the exercise of state powers accordingly. Now, the social rule of law, which evolved mainly as a consequence of the needs of war economy, of the necessity to reduce social tensions and of the rivalry between states,[6] vests such duties in the state as using the law to shape social

constitutional law I. Basics, constitutional institutions] (Pécs: Kodifikátor Alapítvány, 2013), 89.

[3] Cf. József Petrétei, *Az alkotmányos demokrácia alapintézményei [Fundamental institutions in a constitutional democracy]* (Budapest and Pécs: Dialóg-Campus Kiadó, 2009), 140.

[4] Cf. Petrétei, *Az alkotmányos demokrácia alapintézményei*, 141.

[5] Cf. Petrétei, *Az alkotmányos demokrácia alapintézményei*, 142.

[6] For more details on the developmental stages of the rule of law, see Antal Ádám, *Alkotmányi értékek és alkotmánybíráskodás [Constitutional values and constitutional jurisdiction]* (Budapest: Osiris Kiadó, 1998), 19-23.

relations and indirectly managing and regulating the economy to ensure the institutional guarantees of individual freedom and social safety.[7]

According to the prevailing view in academic literature, the value-adding elements of the rule of law include the sharing of powers, the primacy of laws, legality in the application of law, the requirement of legal certainty,[8] the provision of legal protection and fundamental rights guaranteed in the constitution.[9] From the perspective of our subject, the four elements that form the ground for the operation of an administrative legal remedial system in a constitutional state should be highlighted. What supports the inclusion of the principle of power sharing here is that the activities implemented by one branch of power (namely the execution performed mostly by public administration) are complemented and controlled by another branch of power (the judicial organisational system).[10] The constitutional component formulated as the primacy of law justifies the establishment of such guarantees from a functional point of view, because legal control over the operation of public administration is manifested in the named activity.[11] Ensuring legal protection should be highlighted as part of the administrative legal remedial system in view of the requirement that clients suffering a violation of their rights or interests in an administrative resolution shall be granted efficient legal remedies in a fair procedure. It should be noted, however, that regulating in a constitution the values generated in the course of the evolution of modern constitutions is necessary but not sufficient, since the existence of a constitution in itself does not represent constitutionalism: its indispensable prerequisite is to guarantee the implementation of such

[7] For more details see Wolfgang Abendroth, "Demokratikus és szociális jogállam az NSZK alaptörvényében" ["Democratic and social rule of law in the Fundamental Law of the Federal Republic of Germany"]' in *Joguralom és jogállam. Antológia a Rule of Law és a Rechtsstaat irodalmának köréből [The rule of law and nomocracy. An anthology from the literature of the Rule of Law and Rechtsstaat]*, ed. Péter Takács, (Budapest: 1995), 175-194. and Ernst Forsthoff, "A szociális jogállam lényege és fogalma" ["The essence and concept of the social rule of law"] *in Joguralom és jogállam. Antológia a Rule of Law és a Rechtsstaat irodalmának köréből [The rule of law and nomocracy. An anthology from the literature of the Rule of Law and Rechtsstaat]*, ed. Péter Takács (Budapest: 1995), 195-218.

[8] About legal certainty regarding taxation, see Zsombor Ercsey, "Az adózás alkotmányosságáról" ["About the constitutionality of taxation"] in *PhD tanulmányok 11. [PhD papers 11]*, ed. Antal Ádám, (Pécs: PTE ÁJK Doktori Iskola, 2012), 215-216.

[9] For a detailed discussion of the valuable elements of the rule of law, see Petrétei, Az alkotmányos demokrácia alapintézményei, 147-157.

[10] This principle supports the establishment of administrative jurisdiction from the perspectives of competence and organisation.

[11] It is closely related to legality in the application of law, mentioned before separately, which is destined to assure legality in an administrative authority' application of law.

provisions.[12] An important guarantee for the enforcement of a constitution, *inter alia*, is the system of constitutional safeguards which means the assurance that constitutional rules are asserted.[13] As mentioned in academic literature, the tools of constitutional protection include the assurance of citizens' rights and the implementation of the principle of publicity.

It is to be emphasised that the requirements that the principle of the rule of law sets for the exercise of public authority are enforced in three areas: in the duties and competencies of administrative bodies as set forth in legislation, in the procedural rules also defined in legislation and in the provision of suitable means of legal (and in particular judicial) remedies. It can be seen in the light of the above that the rule of law as a requirement formulates the expectation for the modern state to realise the right to legal remedy.[14] And based on Article B) (1) of the Fundamental Law of Hungary, whereby "Hungary shall be an independent, democratic State governed by the rule of law", it can be clearly construed as a duty set for legislators to build up and operate a legal remedial system capable of providing efficient protection to clients against public administration.

Following the above thoughts, it appears to be justified to outline the interrelations between the rule of law and legality in public administration. In their adjudication activities over the recent more than two decades, the Constitutional Court has discussed the matter several times.[15] Within that framework, they first took the position that the named requirement means nothing else but "binding such administrative acts to legal provisions that are taken in possession of public authority", which I find too narrow an interpretation of legality in public administration.[16] Because there is no need to prove the fact that it is a fundamental interest that not only the act delivered at the end of an administrative procedure but also the entire procedure should meet the requirement of legality. As a result, the mentioned body resolved later that the principle of the rule of law also includes the stipulation that "the entirety of public administration shall be

[12] Cf. Petrétei, Az alkotmányos demokrácia alapintézményei, 107.

[13] Cf. Konrad Hesse, *Grungzüge des Verfassungsrechts der Bundesrepublik Deutschland* (Heidelberg-Karlsruhe: C. F. Müller Juristischer Verlag, 1977), 272.

[14] It was before the consitutional process prior to the drafting of Hungary's Fundamental Law that Antal Ádám mentioned that a modern constitutional regulation cannot exist without extensive regulations of human and civil rights. In this context, see Antal Ádám, "A magyar alkotmányból hiányzó alapértékekről" ["On the fundamental values missing from the Hungarian Constitution"] *Közjogi Szemle [Public Law Journal]* 1 (2009): 3.

[15] Regarding the taxation related Constitutional Court decisions, see Ercsey, Az adózás alkotmányosságáról, 215-237.

[16] Constitutional Court Resolution 8/2001. (II. 18.) AB

based on law".[17] It can be noted that the declaration of the right to legal remedy also appears at constitutional level, since the Fundamental Law sets forth that "Everyone shall have the right to seek legal remedy against any court, authority or other administrative decision which violates his or her rights or legitimate interests".[18]

2. Starting point: the legality of public administration

Following this introduction it is justified to find a connection between the principle of the rule of law and the legality of public administration. This topic was discussed by the Constitutional Court several times in the last two decades. In those discussions – considering the legality of public administration in a rather narrow way in our view – the Constitutional Court said that this demand does not mean anything else, but "that acts taken by public administration as a public authority must be subject to the law".[19] However, it does not require more explanation either that it is a basic interest that not only the act taken at the end of the public administration procedure, but also the whole procedure must obey the rule of legality. As a consequence, the Constitutional Court eventually declared that that principle of the rule of law also entails that "the entire public administration must be based on law".[20] It can also be pointed out that the declaration of the right to legal remedy is elevated to constitutional level, because Hungary's Fundamental Law lays down that: "everyone shall have the right to seek legal remedy against any court, authority or other administrative decision, which violates his or her rights or legitimate interests."[21]

It can be stated that public administration bodies are very heterogeneous both with regard to their legal status and their duties (including the intensity, with which they may interfere in citizens' private sphere). Thus, the principle of plurality of legal remedies in public administrative proceedings is also a basic requisite, which requires that the legislator should establish several legal remedy tools that can be applied under different conditions and that can generate different results. This phenomenon is not only typical of the 21st century, as Magyary's comment also explains. The development of legal remedies in public administration was determined by the parallel existence of two trends: (1) the establishment of a simple, transparent and efficient legal remedy system; (2) the legislator also had to bear in mind that

[17] Cf. Petrétei, Magyarország alkotmányjoga I. Alapvetés, alkotmányos intézmények, 92.
[18] Article XXVIII (7) of the Fundamental Law of Hungary
[19] Constitutional Court Decision 8/2001. (II. 18.) AB
[20] Cf. Petrétei, Magyarország alkotmányjoga I. Alapvetés, alkotmányos intézmények, 92.
[21] Article XXVIII (7) of the Fundamental Law of Hungary

"the adjudication of public administration legal debates, i.e. those between an authority and an individual, should not be carried out by a higher level public administration authority, but rather by an independent court".[22]

It has to be noted that among the (legal) guarantees of the legality of public administration there are instruments to be applied within public administration itself (e.g. appeal, review process, legality supervision power of local councils, etc.). Besides these, there are non-public administration proceedings (e.g. administrative court proceedings) and there are constitutional bodies exercising external control. These latter ones' main profile is not connected to the legality of public administration, but they also perform some (additional) duties in this respect (e.g. prosecutor's appeal, the role of ombudsman, the control activity of the State Audit Office).

It is clear that the legal remedies of the public administrative procedure basically serve two goals: the redress of grievances relating to individual rights or interests as well as the redress of objective grievances. Therefore, Act CXL of 2004 on the General Rules of Administrative Proceedings and Services makes a difference between legal remedies at clients' request (in order to remedy a violation of an individual's rights or interests) or ex-officio review of acts (correction of public administrative acts resulting in an objective grievance). The General Code of Administrative Procedure (hereinafter: ÁKR), which aims to revise the law of authority proceedings, maintains this dual system of Act CXL of 2004, but changes the focuses of the legal remedy system of public administrative proceedings.

3. Re-designing the system of legal remedies in public administrative proceedings

During the codification of ÁKR that will replace Act CXL of 2004, the major law regulating public administration proceedings, the legislator has openly perceived the struggle of three requirement systems. Firstly, the new law's approval is determined by several declarations of the Fundamental Law and special attention has to be paid to article B (1), which stresses the principle of the rule of law and Article XXVIII (7), which declares the right to legal remedy, as it has been mentioned before. Secondly, as a member state of the European Union, Hungary cannot escape the international and European trends (e.g. the necessity to create a balance between individual and public interest, the inevitability of "sanctions" following the unlawful operation of public administration, etc.) that appear in the law of proceedings through many other legal institutions. And thirdly, the legislator clearly marks the aspect of redesign and votes for an efficient and fast proceeding, when he/she highlights the unquestionable fact that "the rationalisation and

[22] Cf. Magyary, Magyar közigazgatás, 612.

acceleration of proceedings, in itself, may not be an aspect overriding all other aspects, when the new regulation is created".[23]

3.1 The outlines of the new model

Taking the above mentioned into consideration, the codification of the legal remedy system targeted three areas: (1) the identification of constitutional expectations arising from the right to legal remedy, (2) the maintenance of the dual system of legal remedies and decision reviews and (3) the problems of implementing the review power. The content of the right to legal remedy was explained in detail by the rulings of the Hungarian Constitutional Court and the European Court of Human Rights (hereinafter: ECHR). Here it can be stated that the single-level character of legal remedy does not automatically mean the violation of the right to legal remedy, because as the ECHR pointed out with a theoretical basis, Article 13 of the European Convention on Human Rights demands from the member states neither to have multi-level legal remedy, nor the establishment of legal remedy options by a body that is outside the system of public administration.[24] Thus, from this aspect, the legislator's standpoint claiming that "a single, but efficient and true legal remedy qualifies as satisfactory guarantee for the affected party"[25] cannot be criticized.

The ÁKR does not bring any novelty in terms of the structure of the legal remedy system, because the concept keeps the basic dual system of Act CXL of 2004 and will make a difference between legal remedy proceedings started by private initiative that require the active participation of clients and decision reviews that are carried out ex-officio, even if the client is passive. The legislator treats the implementation of supervisory power also with (a partial) maintenance of the previous system. The supervisory body can be interpreted based on the previous regulation in the case of proceedings by public administration bodies outside the structure of county (and Budapest) government agencies that fit into a hierarchical order, but the supervisory body still has to be appointed for non-hierarchical bodies and integrated county and Budapest government agencies.

[23] "Részletes jelentés az általános közigazgatási rendtartás koncepciójának előkészítéséről" accessed October 27, 2015. http://www.kormany.hu/download/c/c8/50000/20150514%20Jelentés%20az%20általános%20közigazgatási%20rendtartás%20koncepciójáról.pdf, 5.

[24] Article 13 of the convention says: "Everyone whose rights and freedoms as set forth in this Convention are violated shall have an efficient remedy before a national authority notwithstanding that the violation has been committed by persons acting in an official capacity."

[25] accessed October 27, 2015.
http://www.kormany.hu/download/c/c8/50000/20150514%20Jelentés%20az%20általános%20közigazgatási%20rendtartás%20koncepciójáról.pdf, 29.

3.2 Major concerns of the ÁKR's legal remedy system

The new law regulating proceedings maintains the essential frameworks of the previous regulation; however, it sharply re-designs the focal points of the legal remedy system. In Act CXL of 2004 the primary remedy is appeal and the secondary one is judicial review, while in the new system appeals are exceptional and the administrative lawsuit is the main path to follow.[26] According to this, the legal remedy system of public administration has the following structure:

1. basic public administrative proceedings;
2. administrative court proceedings of first instance;
3. (in an exceptional case) administrative court proceedings of second instance.

This concept justifies the above mentioned vital changes by a number of reasons:

- "authorities often think of the public administrative proceedings of two instances as a unified proceeding, therefore the full clarification of the facts takes place in the second instance phase only",
- "in most areas the number of decisions challenged by appeal is meagre (mostly under 0.5%, or 0.33% on average), but around 20-25% of the decisions taken in the appeals proceedings are sought to be reviewed at court by one of the affected parties",
- very often "the truly expectable impartiality of the body that is entitled to hear the appeal is doubtful",
- "the new system can make sure that decisions are taken more objectively, thus clients' rights will prevail more effectively, because other interests or prejudices have no chance to emerge in the system".

In addition to the statements cited, some circumstances must be mentioned in connection with the above. It can be pointed out that the statement saying "the full clarification of the facts takes place in the second instance phase only" can be deemed as a little exaggerated, not mentioning the argument that if we accept that each second instance proceeding is an authority proceeding, then this can rather be understood as a counter-argument that breaks with the general character of appeals. The situation is similar, when we regard the argumentation with statistical data: it is a matter of point of view whether you find a max. 0.5% of decisions challenged by appeals a low figure and the 20-25% of challenged decisions going for court review a large number. Finally, without questioning the effect of structural changes in public administration on the system of authority forums, it has to

[26] accessed October 27, 2015.
http://www.kormany.hu/download/c/c8/50000/20150514%20Jelentés%20az%20általános%20közigazgatási%20rendtartás%20koncepciójáról.pdf, 32.

be pointed out that the remarks about the connections of authorities entitled to judicial appeals and corruption may require a little more elaboration.

The review and re-regulation of some legal institutions in connection with public administration lawsuits is inevitable, when court review becomes general (and at the same time the right to appeal is seriously limited). Solutions should be found for the following problems: a concrete description of the complaint submission process, (the complaint should be submitted to the authority of first instance, which will forward it to the court through its superior body), extension of the ex-officio review power, the duty payable for the public administrative lawsuit, the procedural law methods that aim to mitigate the formal requirements regarding complaints and the change of court review and enforceability.[27]

Concerning the basic model of the legal remedy system it is obvious that appeal as a method of legal remedy will remain applicable, however, before the legal remedy proceedings by the court it will be accessible to clients in exceptional cases only. The Concept says the right of appeal will be granted in three cases: (1) decisions not taken on the merits of the case, (2) decisions taken in short cause (3) automatic electronic decisions. Beyond this it may be important to retain this legal remedy tool in some groups of cases to extend the potential cases subject to a right of appeal. Such cases might include, without listing concrete groups of cases:

- cases about numericality exclusively,
- cases under a certain case value (typically to be applied in tax and customs affairs),
- proceedings involving many clients, and
- proceedings involving the participation of special authorities.

In those cases the legislator must also decide what the relation of the two legal remedy proceedings existing in parallel will be. In this respect it is also a possible scenario that "the general public administration regulation maintains both legal remedy systems and allows the client to choose between an appeal and an administrative lawsuit. Should the client submit an appeal, he/she will get the possibility of applying for judicial review after his/her appeal has been decided."[28] It is to be noted though that in this case the regulation must be defined precisely to ensure both fast and efficient legal remedies.

* * *

[27] Here we just want to mention that by eliminating the general feature of appeal the suspensory effect on execution of the complaint submission should be more generally accepted.

[28] accessed October 27, 2015.
http://www.kormany.hu/download/c/c8/50000/20150514%20Jelentés%20az%20általános%20közigazgatási%20rendtartás%20koncepciójáról.pdf, 34.

In this study I have presented the most essential draft regulations that can be understood from the Concept of the new general code of administrative procedure highlighting some major changes compared to the currently valid Act CXL of 2004. Of course, it may be presumed that the legislator may have to make minor changes to the draft as the wording of the law proceeds on its way to approval and it cannot be excluded that a different legal remedy system may emerge with the approval of the new law than what has been discussed here so far. It is clear, nevertheless, that the procedural law of public administration will be transformed and the legal remedy system will have to face huge changes. This will also mean new challenges for the public servants who apply the law as an authority and other judicial bodies.

Usage-Based Insurance – Vehicle Insurance of the Future

BOCSOK, VIKTOR - BOLDIZS, PÉTER - LOÓS, ISTVÁN - NAGY, GERGŐ - NAGY, ZOLTÁN

ABSTRACT *This study is aimed at giving a comprehensive overview of new trends in insurance models and policies, especially liability and property motor insurances, brought about by the results of today's technology developments. The paper discusses the concept of usage-based insurances, its advantages, the underlying technical and IT background and the possibilities awaiting for exploitation in these new generation insurance models. Requirements of secure data collection, transfer and storage appearing in conjunction with the technical and IT background are also presented and discussed. The paper touches relevant elements of the Hungarian privacy and insurance regulations.*

KEYWORDS *usage-based insurance, insurance law, vehicle liability insurance, casco, privacy*

1. Introduction

Technology development, new service models based on resource sharing and workload distribution, new consumer habits coupled with cost cutting collectively enabled us to consume more and more services on-demand, based on momentary decisions, and real needs. Increasing competition brought this trend into insurance services, resulting in insurance models to appear on the market in which the fees to be paid by the contracting party[1] are calculated on the basis of her behavior or, in other words, insurance fees match the momentary, real-time probability of covered risks.

The technical background of new solutions was primarily established by sensors and networks, as well as the introduction, spread and exceptional development of telematics systems. Usage-based insurance models, just as all solutions backed by infocommunications systems, must address numerous issues, especially with regard to secure data collection and

[1] Liability insurance policies establish tripolar legal relationships, since the insured party eligible to receive recovery (beneficiary) is not the contracting party (the tortfeasor in the case of insurance events), but the party who suffered the damage (damaged party).

processing, as well as privacy. Some of these questions arise out of economic considerations backing the given insurance model, while others are brought into focus by the business models coupled with technology.

The study attempts to present the concepts and advantages of a specific market of non-life insurances, the market of automobile insurances or, more precisely, usage-based property and liability motor vehicle insurances, along with the technical background bringing these to reality and in addition, the legal issues.

2. Concept and Advantages

2.1 Concept

The differentia specifica distinguishing usage-based insurance models from current models relying exclusively on risk sharing, is the real-time and usage-adaptive measurement and monitoring of risk factors, which can produce more personalized insurance products focusing on factors most relevant for risks and having the greatest influence on damages.[2] This model, for which the literature coined different terms[3] is based on adaptively adjusting insurance costs to vehicle use or to be more precise, to the measure of the risks coupled with vehicle use. Usage-based insurances (hereinafter UBI) are the results of insurance companies' (ICs) cost and revenue optimizing efforts, the development of ICT and the change in consumer habits. The products of this yet rare type are considered the new generation of insurances and the common central products of the future by renowned international analysts.[4]

Voluntary vehicle (property) insurances (CASCO), freight insurances forming a separate and, according to expert opinions,[5] the most complex insurance models, as well as liability insurances to cover liabilities resulting from the use of vehicles can all benefit from usage-based models. Customer benefits are more significant for the latter types of insurances, while the benefits for ICs are more significant for CASCO. Practice has proven that the primary consumers of UBI are producing less mileage within an

[2] Factors include the duration and method (extent and nature) of use, vehicle conditions and environmental factors.

[3] Pay-as-you-drive, pay-how-you-drive, mile-based auto insurance, etc.

[4] See the analysis of Ernst&Young acessed August 02, 2015. http://www.ey.com/Publication/vwLUAssets/EY-usage-based-insurance-the-new-normal/$FILE/EY-usage-based-insurance-the-new-normal.pdf

[5] Szilveszter Farkas, *Biztosítási ismeretek gazdasági menedzserek számára (oktatási segédlet)* (Győr: SZIE, 2002), 39.

insurance period,[6] therefore facing less exposure to accident risks. Liability insurance charges adapted to vehicle use may produce significant cost savings for these drivers. ICs, however, can also benefit from savings, since price-sensitive customers may change their driver behavior fundamentally, by getting inspiration to drive carefully and to avoid unnecessary vehicle use further decreasing risk exposure. More careful driving behavior and optimized vehicle use produces benefits for CASCO insurances as well, and such insurances providing full or partial coverage by adjusting charges to actual vehicle use may become accessible to those consumers who can not afford to purchase voluntary insurances at the current fees.

Frequency of use is, however, just one parameter, risk exposure is the consequence of several factors. Accident statistics show exposure is correlated with vehicle type and power, driver gender and age, and the date of having the license obtained.[7] The most significant accident risk consists almost ultimately of drive behavior,[8] human failure,[9] which can be monitored and, moreover, can significantly be influenced by applications relying on technology providing the grounds for insurance products.[10] Statistics[11] show the most frequent types of road accidents are the collision of vehicles and lane leave, with more than two-thirds of those events

[6] One year under the prevailing law (see Act V of 2013 on the Civil Code section 6:447 § (2)). The focus of the study is on the Hungarian regulation.

[7] This should not be interchanged with driver experience, known to be more closely coupled with mileage driven and driving environments. Based on the statistics published by the Hungarian Central Statistical Office [Központi Statisztikai Hivatal, *Közlekedési balesetek 2012*, ed. Péter Szabó, (Budapest: self published, 2013)] the number of males faulty in accidents is five times bigger than the number of females, and most faulty persons are above the age of 45. People having obtained their driver's license more than 15 years ago are involved in the vast majority of accidents, followed by those having their license obtained 5-10 years ago.

[8] Some estimate that 85-90% of all road accidents are caused by driver faults. See Krisztina Felföldi, and László Kálmán, *"Közúti baleset – munkabaleset" Munkavédelem* Vol. X. issue 9., (Budapest: Fórum Média Ltd., 2012): 5-7.

[9] Mostly including the following reasons: inappropriate speed for road, traffic and weather conditions and visibility, ignoring traffic signs and stoppage obligation, violating rules of passing and changing direction, flowing and turning.

[10] Examples primarily include eco-driving applications, stimulating drivers to drive more efficiently to optimize fuel consumption. These applications relying on embedded systems perform real-time measurement of the factors influencing fuel consumption. In addition to monitoring the conditions and operation of the drive train, they are capable of, monitoring the conditions and operation of braking systems (since the other consumption factor in addition to throttle pressure is braking patterns). This parameter allows drawing conclusions about driver behavior, since quick, strong and short-distance brake applications may imply potential situations of accidents.

[11] Központi Statisztikai Hivatal, *Közlekedési balesetek 2012*, 13.

occurring in minor unprotected open roads. Investigations of the conditions of these accidents, most of which render to be an insurance event, are of key importance in order to determine responsibility and the ICs's liability for damages. The infrastructure enabling UBI can also contribute to and serve accident prevention purposes. By means of conducting real-time monitoring of vehicle conditions and behavior and sharing the information with the driver, accident risks can be mitigated. Emergency communication systems relying on telematics systems can mitigate damages and, therefore, reduce ICs's obligations and financial liabilities. In addition to information obtained from the vehicle, monitoring environmental data and variables,[12] and evaluating such data in conjunction with vehicle data can enable early notification of drivers on hazardous traffic situations more precisely than ever, as well as more optimal enforcement of damage prevention and mitigation obligations,[13] and simpler proof of potential contribution of the injured. UBI relying on telematics establish therefore the grounds for comprehensive risk management.

It must be noted, usage-based insurance (UBI) models may affect the application of the decision[14] made by the European Court of Justice on the matter of unisex insurances, rendering paragraph 2 of Article 5 of EU Directive 2004/113/EC[15] invalid, which actually received criticism[16] from insurance companies in several issues.[17] For that matter, technologies behind UBI are capable of providing unbiased support for finding differences in individual or personal risk factors – and, therefore, factors governing premium calculation –, including, for example gender-wise differences. According to the position of the European Court of Justice, impartially justified differentiations may be legitimate. Pursuant to the Court opinion, Act LX of 2003 on Insurance Institutions and the Insurance Business (IA) declares that the principle of equal treatment does not suffer defect from indirect – not even from gender-wise – differentiations supported, on the

[12] Such as weather and road conditions.

[13] Act V of 2013 on the CC Article 6:463

[14] In its judgement C-236/09 (the Test Achats case) released on March 1, 2011, the European Court of Justice renders paragraph 2 of Article 5 of 2004/113/EC, enabling gender-related differentiation in the course of insurance relationships based on reasons of actuarial mathematics and statistics, void, since gender-wise differentiation causes a defect in applying the principle of equal access to and supply of goods and services. Therefore insurance policies shall all be unisex.

[15] Council Directive 2004/113/EC of 13 December 2004 on implementing the principle of equal treatment between men and women in the access to and supply of goods and services

[16] Term of validity is just one of the disputed issues.

[17] For more information: Balázs Tőkey, "Az európai Bíróság ítélete az uniszex biztosítási tarifák kötelezővé tételéről" *Jogesetek magyarázata: JeMa* vol. 2, issue 3. (2012): 48-56.

grounds of unbiased justification, by a reasonable cause directly related to the given legal relationship, recognizable independently and based on real and actual differences.[18]

2.2 Consumer benefits

The main benefits of UBI for consumers are lower fees and more transparent calculation. Current insurance schemes base fees on shared risk bearing, causing parties belonging to the same charge rate based on their age or location to pay the same amount of fees even if the frequency or nature of their vehicle use, or the conditions and safety of their vehicles differ, or if they show difference in how aggressively they drive and how much risk is involved in their driving style. Calculation of fees for property insurances or potential damages are currently based on the value of the vehicle and its parts, the self-imposed retention, the age and residence of the insured party, the protection and safety equipments in use and theft statistics. This pricing principle is adequate for events of theft, damages caused to parked vehicles, damages caused by self-failures or not compensated by the faulty party, while it ignores risks related to accidents occurring during driving and risks occurring out of the course of vehicle operation, but related to the vehicle's technical conditions. Pricing of compulsory liability insurances must consider the extent of damages caused by the consumer and the overall extent of damages,[19] but the relation between the conditions of the vehicle of the faulty party and the driving behavior, which can be called riskiness, is more obvious than in the case of CASCO insurances. For the sake of simplicity, fulfilling maintenance obligations set against the operator, as well as the usage of protective equipments in the course of damage prevention and mitigation liabilities[20] are all included in the term and factor "driver behavior". The most efficient pricing schemes for UBI employ a combined approach which also allows the management of factors independent of usage and residual risks. The services facilitated by the technology systems on which UBI is based, such as on-premise repairing, immediate assistance related to the vehicle's conditions or the necessity of unplanned maintenance operations offers additional benefits for the consumers.

Governing payment of fees is of essential importance in the spread of UBI products.[21] Telematics supported UBI objectively meets the

[18] Insurance Act Section 2 of article 96/A.

[19] Including the extent of damages caused by non-paying consumers and parties not maintaining suitable insurance policies.

[20] Protective equipments include devices aimed at preventing personal injuries, such as seatbelts, child seats.

[21] The regulation governing the payment of fees also influences the resolution of privacy.

requirement which states the difference between fees to be paid by individual parties cannot exceed the extent justified by the difference in risks. In the pricing model, ICs must also consider damage deviation, and the compliance with the requirement saying that the received insurance premiums must cover the costs and service fees to be paid in relation to future insurance events Payment models must enable the consumers to pay reserves and the amount paid by the ICs after an insurance event occurring in the same insurance period. The problem is not this, but the construction of billing cycles, the calculation and settlement of insurance fees dependent on actual use, and the determination of insurance periods corresponding these aspects. Sub-section 1 of Section 6:447 of the Act V of 2013 on the Civil Code (CC) requires insurance premiums – in the case of periodic payments – to be paid in advance, on the first day of the period to which they pertain. This means that characteristics of usage could only be applied and considered as credits in the subsequent period. The issue could be circumvented by setting shorter insurance periods,[22] what is, however, not viable generally for compulsory insurances, according to the provisions of Act LXII of 2009 on Insurance Against Civil Liability in Respect of the Use of Motor Vehicles (CMI). Provisions of the CMI governing tariffs to apply to individual policies set forth that the insurance period is one year, and tariffs of open term compulsory insurances[23] can only be changed at the end of the billing cycle, allowing only one exceptional case.[24] The ICs must calculate their compulsory liability insurance fees according to the tariff applicable on the first day of the insurance period, published beforehand. Changing these fees during the insurance period is only allowed upon the fault of the contracting party[25] within 60 days from the first day of risk coverage, unless stated otherwise in regulations. The regulation requires the new fees to be based on facts current at the time of entering into a contract of insurance policy. Fact-based telematics systems behind UBI models can significantly help in meeting these requirements. Advantages of telematics systems are primarily apparent for fleet operators. The above mentioned tariff model preventing the development of UBI models is not available for these companies, since the regulation makes an exemption for vehicle fleets by enabling the introduction of a change in the insured period. According to Section 11 of the CMI, the parties concluding fleet policies may derogate

[22] The IA outlines a similar methodology, for yearly cycles, by saying in its Appendix 10: "*recurring premium payment models shall consider the circumstances before the premium becomes due at the beginning of the year covered by the insurance.*"

[23] According to sub-section 1 of Section 16. of the CMI, insurance policies shall be indeterminate for vehicles required to maintain permanent automobile registration.

[24] CMI sub-section 1 of Section 24.

[25] Breach of obligation to disclose material facts and to cooperate when entering into a contract of insurance policy.

from regulative provisions with regard to the date the policy becomes effective, the termination of the contract, the insured period and payment. The basis of fee calculation is the insured period and the tariff valid on the first day of the effective period of the policy, which can not be changed during the period. Fixed-term policies can also be concluded for vehicle fleets. Consequently, provided the tariff has been published properly, and by the means of concluding shorter fixed-term policies, the attributes of vehicle use can be taken into account, at least calculated on the average of the fleet, even if the fees are to be paid in advance.[26] Vehicle use attributes could be taken into account for compulsory insurances in a way similar to the bonus-malus system,[27] in the form of discounts and surcharges,[28] with the difference that the system for usage-based features would be based on the attributes measured during vehicle use. When developing the terms and conditions for insurance policies, attention should be paid to the phenomenon that insured parties may become uninterested in concluding follow-up policies in the case of less advantageous fees. This issue can be managed by careful policy development.

2.3 Advantages for Insurance Companies

UBI, as a solution, brings straight advantages for ICs as well, since personalized or customized policies allow to reach a wider set of customers, costs of paying for damages can be controlled better and the number of frauds may decrease.[29] In addition to customizing insurance policies, flexibility can also be increased, and the underlying technology allows more efficient management of geographical and temporal risks[30] beyond risks coupled with

[26] CMI sub-sections 1 and 3 of Section 20.

[27] CMI, as well as the provisions of Decree 21/2011 (VI.10) NGM issued by the Ministry for National Economy on the bonus-malus system, its classification mechanism and the issuance of loss history certificates.

[28] According to the provisions of Decree 21/2011 (VI.10) NGM

[29] The technology base of UBI can help in reconstructing cases of damages which enables – by taking into account the direction, strength and precise time of collision, brake efficiency, position of throttle pedal, direction of acceleration forces, deployment of airbags, operation of stabilizer systems, for automated lights light conditions, etc. – the drawing of conclusions concerning the extent of damages; geolocation technologies allows for unique and authentic determination of the location where the damage occurred; and CAN-based monitoring of vehicle health can provide high-precision assessment of the real value of the damaged vehicle. Geolocation also enables to mitigate a form of fraud, when consumers register a countryside address as their address of residence or stay in the hope of receiving lower fees.

[30] This solution enables assigning higher fees to parts of days, seasons or periods bearing higher insurance-relevant risks. It also allows for proper fee adjustments in

actual vehicle use. While maintaining legal guarantees, embedded systems enable the monitoring of vehicle health, performance of mandatory and required maintenance operations, tyre pressure and grip, the use of protection systems (such as whether airbags were deployed in crash in the case of accidents, whether alarms were activated and doors were locked in the case of thefts) and whether the driver or operator paid attention and acted according to signals published by the diagnostics systems of the vehicle. UBI supported by embedded telematics systems therefore enables ICs to have control over risks coupled with the insured party, and to immediately detect, assess and handle risk changes, leading to potential measures influencing the contract of insurance.[31] CMI prescribes agreements of mandatory insurance policies to include provisions concerning investigation of issues of responsibility, since obligations of performance only include justified claims for damages.[32] Telematics systems enables technical reconstructions of events, making it possible to identify the extent of the responsibility, and the efforts performed by the driver more precisely than ever. Monitoring driving patterns also allows ICs to force recourses.[33] Embedded devices (connecting to the CAN bus, see later) and devices connected to the diagnostics interface (the OBD connector) enable more factual and accurate bonus-malus classification and maintenance of loss history.

Telematics systems backing usage-driven insurance products support change disclosure obligation set forth in sub-section 2 of Section 6:452 of the CC, and can, therefore, assist in demonstrating and attesting the failure to disclose relevant changes, as well as the notification or exclusion[34] of notification by the insured and damaged party where it had influence on the extent of the damage or the causation of the event to happen, which may even release ICs from their obligations.[35] Solutions can enable the automation of event reporting,[36] decreasing administration overheads. Consumers using the system can immediately satisfy their obligation of damage disclosure, enabling to conduct factual and neutral reviews, increasing the chances of uncovering circumstances of the obligation to honor. Technology enables the determination and demonstration whether the driver has satisfied prevention and mitigation obligations,[37] taken reasonable

response to changes in exposures to risks coupled with certain areas, regions or zones.

[31] CC sub-section 1 of Section 6:446

[32] CMI Section 12

[33] CC Section 6:468

[34] The insured party may be able to demonstrate an undisclosed condition did not play a role in the occurrence of the insurance event, and did not influence the extent of the damages.

[35] CC sub-sections 2 and 3 of Section 6:452

[36] CC Section 6:453

[37] CC Section 6:463

and justified efforts.[38] A certified real-time data recording device can also be used to justify the measures taken by the driver to prevent the accident,[39] and to determine if the obligation to condition persistence or preservation[4041] specified in article 6:465 of the CC has been met. Embedded devices can simplify for ICs to respond to the burden of proof of unlawful, intentional or materially negligent procedures and failure to comply with obligations contributing to the occurrence of the insurance event committed by the insured party or other persons set forth in Section 4:464 of the CC, on the grounds of which the ICs can be released from their obligations. For comprehensive insurances, embedded devices connecting to the CAN bus can provide continuous and realistic assessment of the health and, therefore, the value[42] of the vehicle, which makes it possible to avoid over-insurance,[43] and to dynamically adjust the amount of insurance.

Technologies behind UBI can also assist accident prevention. In addition to collecting and processing sensor data, systems can be made capable of receiving data describing the operational health of the vehicle, the driving pattern and the environmental factors, and can be able to notify the driver on the need of conducting an overhaul, or instruct him to change the driving style. Prevention, more thorough fraud detection, and broadening the product portfolio influences the risks ICs are exposed to, as well as the risk management practices and consequently, can have an influence on computing the amount of insurance-specific reserves[44] and the solvency margin described in Directive 2009/138/EC.[45]

3. Technical Background, Information Security and Privacy

3.1 Technical Background

The technical background capable of UBI shows notable stratification, varying from built-in embedded telematics systems to mobile applications.

[38] Embedded devices can prove whether the vehicle operator has performed all the maintenance activities required for accident-free traffic.
[39] Braking, appropriate speed selection, sudden direction changes, etc.
[40] CC Section 6:465
[41] Having the vehicle moved or powering the engine on can lead to severe damages in the case of accidents caused by engine failures.
[42] To be more precise, the contributing factors of the value such as real mileage.
[43] CC sub-section 1 of Section 6:458
[44] The mentioned factors can influence insurance-specific risks, such as non-disclosure and change risks.
[45] Directive 2009/138/EC of the European Parliament and of the Council on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II)

For both the ICs and the consumers, embedded devices primarily those connected to the CAN[46] protocol provide the most advantages. Telematics combining ICT covers the tasks of collecting, storing and processing data originating from the vehicle sensors and the so called intelligent transportation systems (ITS). Primary data sources are obviously the vehicles, data can be obtained or retrieved from the CAN bus or the onboard diagnostics connector, the OBD[47] interface. In addition, some secondary data sources such as sensor networks detecting or measuring environmental factors, telemetry systems and remote metering networks also play a role.[48]

CAN, standardized in 1996[49] has become commonly used in vehicles and industrial control systems. It is a network of, and the corresponding protocol for peer nodes connected via serial bus. Lacking any central control units, CAN is an extremely reliable and fault-tolerant event- and message-driven network, within which messages are transferred in the order of importance of contained information. CAN provides broadcasting features to facilitate real-time and consistent[50] data communication within the vehicle, and can, in addition to transmitting information, query information from each other. The encoding or encryption of communication facilitated by the protocol is different for each manufacturer and, sometimes, for different models as well.

OBD, built into vehicles from 1996, is not an internal transmission protocol, but a failure diagnostics interface connected to the central control unit.[51] The goal of developing OBD was to monitor equipments relevant from the aspect of emission, however it has become the universal error and failure diagnostics interface. It provides feedback for the combustion process, catalyzer activity, leakproofness of the vapour prevention system, meeting rules in the compound mixing system, lambda probe, as well as the actual operation of the exhaust return system. 2nd generation OBD supports displaying and, for later retrieval via the diagnostics interface, storing error codes. In addition, it also ensures the proper activation of the engine prevention program and the operation functions. Retrieving CAN data, especially coupled with other devices such as satellite positioning

[46] Controller Area Network
[47] On-Board Diagnostics
[48] CAN is only one of the data transmission network protocols used by the vehicle manufacturing industry. There exist, however, other protocols with less relevance today, including LIN, FlexRay, CANopen, SPI, I2C, UART/RS-232 and MOST.
[49] ISO 11898 family of standards
[50] That is, unified and consistent broadcasting, ensuring integrity, is used instead of peer-to-peer communication based on recipient addressing.
[51] For a comparison of the two technologies, see: Zsolt Szalay, et al. *ICT IN ROAD VEHICLES - Reliable vehicle sensor information from OBD versus CAN* (presented at the 4th International Conference on Models and Technologies for Intelligent Transportation Systems, Budapet, June 03-05, 2015)

equipments[52] can support facilitating faster, deeper and more precise interventions than OBD can provide. In contrast, a benefit of using OBD is the ease of direct access and reading of data.

The market already offers numerous devices capable of retrieving insurance-relevant sensor data. Products include a large variety of FMS interfaces[53] capable of tapping CAN traffic and transforming data to other formats interpreted by traditional IT tools more easily, as well as simpler plug-in devices to connect to the OBD, moreover devices connecting the driver's mobile device to the vehicle. Future vehicles are expected to offer such multipurpose[54] adapters as accessories, however access to these services should also be ensured for the drivers of today's vehicles. The so-called retrofit solutions capable of ensuring such access draw the question of maintaining the validity of warranties, the value of which may be significant for many vehicles. Regulations[55] declare warranty providers are exempt from their liabilities once the failure is proved to have appeared after proper performance of the agreement. Failures related to posterior modifications are subject to this provision. Warranty only becomes an issue for non-built-in devices connected to the OBD adapter when the device is capable of facilitating communication toward the vehicle's controller via the connection. Today the chances are low, but seeing the trends in IT, it is possible that viruses or other malwares can infect the vehicle's controller software, or its information and entertainment system via the connected device, blocking or preventing faultless operation. Access to sensor data transmitted over the CAN seems to be a more simple issue, since only built-in devices can gain such access. CAN data can be retrieved by wire tapping the bus and decrypting information transmitted over it. Disrupting the CAN network may cause the warranty to get ceased. The issue can be resolved by using contactless devices.

Infrastructure required for UBI does not consist only of data collector devices, issues of storing and transmitting data must also be managed. Data can be collected locally, however such solutions can only support posterior reconstruction of insurance events, and to check (rather circumstantially) how risk factors changed from period to period. The most effective, real-time solution is a system combining local data (including geolocation data) collector devices with a centralised data warehouse. Technical background

[52] On CAN and GPS technologies, see Mátyás Hesz and Bálint Szabó, "Mérés alapú balesetelemzés" *A jövő járműve*, Vol 5, issue 3-4. (2013): 30-33.
[53] Fleet Management System Gateways
[54] The mentioned interfaces can be used effectively, in addition to supporting the UBI, for a bunch of other purposes, including but not limited to eco driving, vehicle safety and security, emission monitoring, remote error diagnostics, vehicle tracking and purposes together can provide the grounds for the connected car paradigm.
[55] CC sub-section 1 Section 6:171.

for such can be provided by high-bandwidth wireless connections, ICT devices and services, the so-called Machine-to-Machine data connection solutions. Data obtained from vehicle sensors can also be transmitted to the LOB[56] systems of the ICs via integrated ICT networks, such as built-in GPRS, 4G or LTE modules, or via the mobile devices of the drivers. The connection can either be direct or indirect with data processors placed in the middle.

Certain UBI products solely rely on the mobile devices of the insured, and exploit their measuring instruments to determine location, acceleration and direction. While such a solution is obviously convenient and low-cost, it faces numerous disadvantages, eg. data from vehicle information systems cannot be accessed and processed, therefore such solutions cannot ensure certified and unbiased measurement of vehicle health conditions, neither the circumstances of insurance events. Solutions purely employing user devices can be subject to manipulations in addition to negligence, and theft of or losing the used mobile devices remain valid problems. Suitable infrastructural backgrounds for UBI must incorporate telematics devices capable of monitoring, collecting, logging and transmitting data generated by the relevant sensors in conformity with information security (InfoSec) and privacy regulations and requirements set against the insurance industry in order to store and analyze data in some on-premise or cloud-based central LOB applications.

3.2 InfoSec aspects

The term InfoSec is generally used to refer to the set or concept of measures and efforts taken to provide risk-proportional protection against threats and exposures threatening data. The broadly accepted[57] and used definition by the International Standards Organization (ISO)[58] reads, the term represents the concept of ensuring, maintaining or providing information confidentiality, integrity and availability,[59] as well as authenticity, genuineness, accountability, non-repudiation and reliability. Sections 65/A and 91/D of Act LX of 2003 (IA) sets forth InfoSec

[56] line-of-business

[57] A clear reflection of this wide acceptance is that Act L of 2013 on the information security of governmental and local governmental organizations (ISA) also relies on the concepts and provisions of the ISO 27000 family of standards.

[58] ISO/IEC 27001:2013 Information technology. Security techniques. Information security management systems. Requirements

[59] Confidentiality shall be understood that information can only be known by authorized persons and only to the extent according to their authorization. Integrity means the contents and attributes of data match those expected, is precise, complete and authentic, originates from the expected and validated source. Availability is defined as the unrestricted ability to access data by the authorized parties.

requirements by specifying that risk-proportional protection against exposures must be enforced for systems as well as certain information stored in those systems. Exposures include such threats which can violate or endanger the maintenance or enforcement of requirements listed in the ISO definition. A wide range of negligent and intentional behavior and cases of damage belong to this scope, from hacker attacks to design and construction failures, operator negligence and the interruption of supply chains due to technical reasons, natural disasters or terrorist attacks. Risk-proportional protection means the costs spent on protection must be proportional to the damages and losses threats can cause. The provisions of the IA concerning the requirements of the IT systems of ICs, in accordance with the privacy provisions of Act CXII of 2011 on the rights to self-determination over information and on information freedom (Info Act),[60] requires ICs to use administrative and governance apparatuses to meet InfoSec requirements. Companies should sort their systems to security classes,[61] take IT-specific risks into account when developing their operational policies, regulate the ecosystems of responsibilities, auditing and information disclosure, as well as disaster recovery and business continuity processes.[62] Compliance with InfoSec principles is present in the entire system lifecycle, from design and procurement to operation and audit. ICs must employ monitoring systems and under the umbrella of risk-proportional protection companies must ensure[63] the unique identification[64] of major components, devices, processes and persons. Companies must also ensure systems provide closed and end-to-end protection, maintain operational logs while precluding the possibility of compromise.[65] ICs must also guarantee the confidentiality, integrity and authenticity[66] of data transfer. These obligations turn to be critical for M2M

[60] See Info Act Chapter 6.

[61] The security classification provided by the IA is different from that contained in the ISA, though the concepts and foundations match. Should, however, a specific system of the ICs be qualified as a critical system according to Act CLXVI of 2012 on the identification, selection and protection of critical systems and facilities, or should ICs perform data processing for a party subject to the ISA, the provisions of the ISA shall also apply.

[62] ISA sub-section 2 of Section 91/D.

[63] ISA sub-section 5 of Section 65/A.

[64] This means regulated, auditable and regularly audited use of administration (including access levels, authorization, definition of responsibilities, audit logging and management of extraordinary events). For details see sub-section 5/c of Section 65/A of the IA.

[65] The infrastructure of UBI logs the operation of the monitored system and not just its own operations. Pattern-based real-time log analysis supports prevention and ensures detection and response of security events.

[66] Authenticity can be ensured by timestamping data and by using digital signatures of the corresponding trust level. A timestamp, according to Act XXXV of 2001 on

systems UBI relies on. In order to stay compliant with InfoSec regulations, the management and handling of media must be governed by policies and must be secure, moreover data must be stored copiously and be archived. This requirement also applies to local data collectors, storing and transmitting devices. The systems on which UBI relies are IT systems or connect to IT systems, therefore InfoSec requirements must be enforced. According to the regulation, ICs are responsible for implementing protection measures to meet the security requirements even if the IT background or the LOB applications are partly or completely outsourced.

According to sub-section 4 of Section 5 of the IA, only ICs are allowed to conduct insurance activities, however ICs, according to sub-section 1 of Section 76, can outsource any of their activities other than taking the risk and concluding re-insurance agreements, provided that privacy regulations are fully observed and outsourcing policy is deployed. When outsourcing business activities, ICs have to retain their rights to control and audit, as well as their obligations for insurance risks. Outsourcing cannot cause breach of consumers' interests, and cannot influence the performance of the ICs' obligations. Outsourced activities can be audited using the same procedures as if the ICs acted on themselves. In addition, the regulation specifies conflicts of interest, too.[67] ICs will be held liable for all losses and damages caused in the course of outsourced activities and, moreover, it is also of the ICs's responsibility to ensure the party performing the outsourced activities acts lawfully with due care and must also verify all required permits and skills are present. Parties performing outsourced activities for multiple ICs must isolate data regarding the various ICs. If personal data is handed over to the outsourcing party, provisions of the IA also apply in addition to those of the Info Act, entailing the incorporation of a privacy policy into the respective outsourcing agreement. Outsourcing is a relevant issue for UBI, since international practices prove it is quite common that ICs include the services of 3rd parties to obtain, transmit or process vehicle data. Outsourcing also comes relevant when talking about cloud-based data processing, and as auditing experience shows, it may also be relevant even for infrastructure provision (IaaS).

A particular approach to InfoSec and privacy issues concerning cloud services is published in Managerial Circular 4/2012[68] released by the

electronic signature, is a set of data irrevocably assigned or logically attached to an electronic document, which ensures the timestamped document existed at the moment of applying the stamp in an unchanged form.

[67] IA sub-section 7 of Section 77.

[68] Decision 60/1992 (XI. 17.) AB released by the Constitutional Court of Hungary stipulates managerial circulars released by the FIC shall not have legal binding force. Financial institutions however can not ignore the fact that the circular discloses details on the audit methodology and focus of the FIC in the subject matter.

Hungarian State Financial Institutions Commission (FIC), merged into the Hungarian National Bank, on the risks coupled with consuming and using social and public cloud services in financial institutes. The document, resembling the resolution released by the U.S. Federal Financial Institutions Examination Council in July 2012, is targeted at financial institutions which are currently users of cloud services and which plan to consume those services. The document reads, consuming cloud services shall be treated and managed as outsourcing IT systems, bearing the same risk characteristics as "traditional"[69] outsourcing bears. Citing the document, "consuming cloud services by an institute qualifies outsourcing"[70] and the FIC plans to investigate the compliance of its the technical and contractual details in the course of on-premise audits. The central issue of the resolution is the enforceability of privacy requirements in the cloud. The FIC deems data classification can provide the grounds to decide what kinds of data can be migrated to the cloud. The FIC does not recommend to store and manage personal data, including banking and insurance secrets in public clouds, since it may be impossible to determine the location of data storage. The standpoint is that the protection measures by which physical environments can be protected are not yet feasible and viable in virtualized environments, at least not at the same level. The FIC publishes recommendations and specifies requirements for cloud-based data handling, focusing on implementing the expected level of logging, sufficient string encryption and authentication, as well as secure and permanent deletion. The FIC does not prohibit or exclude the option of consuming cloud services, it rather makes it possible within the boundaries of industry-specific regulations.

3.3 Privacy and secrecy

Vehicle insurance activities in Hungary are governed by three acts, the CC, the IA and the CMI. In the light of the conceptual and technical background, several relevant aspects of the regulations have been discussed. The consequence we have come to is that generic and industry-specific regulations do not exclude the possibility of introducing this new insurance model for property insurances, and do not always exclude it for compulsory insurances. In order for the UBI to make a success in the market, however, suitable privacy and data protection background is vital to exist.

The primary privacy concern is to determine what data qualify personal data out of those collected, transmitted, stored and processed (handled) in the course of UBI. The Info Act gives a broad scope for personal data, including

[69] As outlined in chapter 28 of Act CCXXXVIII of 2013 on credit institutions and financial enterprises.

[70] Managerial Circular 4/2012, accessed August 30, 2015 http://www.mnb.hu/letoltes/vezkorlev-4-2012.pdf

the entirety of all data which can be related to the affected entity, as well as the consequences one may come to by getting those data known. Data remain personal in quality until the data controller (the natural or legal entity or other entity having the status of a legal person - namely the ICs for UBI - determining the purposes and methods of handling personal data and making decisions with regard to data controlling) can restore the relation of the data with the described entity.[71] Data recorded in vehicles contain information which can be used to produce consequences for the driver. This includes, without limitation information on the movement, geographical location, driving style, purpose and mode of vehicle use. In contrast to InfoSec focusing on technology protection, privacy concerns legal aspects, though the Info Act (namely Section 7 on data security requirements) contains provisions for technology protection as well. According to the Info Act, data security includes all states resulting from organizational and technical apparatuses and procedures deployed in order to protect against illegal access to personal data; acquisition, transmission and publication, manipulation, deletion and destruction, so any kinds and means of use; incidental destruction and damage of such data, as well as inaccessibility of data due to technical changes, and any acts and events threatening the confidentiality, integrity and availability of data. The regulation sets forth the various registers and databases storing electronic data cannot be combined, connected or merged in lack of legal authorization for such actions. Automated data processing faces extra requirements, such as taking certain measures by the data controller and the processors acting on behalf of the data controller to perform technical operations on the data. Automated data processing facilities must provide protection against illegal data entry and access to the respective systems in order to use it with the help of data transmission equipments. The facilities must also ensure it can be verified and determined who received or who may receive personal data by transmitting the data over transmission equipments. It is also a requirement to be able to determine the identity of the parties entering various parts of data in the system, as well as the precise time of entering those data. Recovery from breakdowns and reporting data processing errors must be guaranteed. Data protection measures must respect state-of-the-art technology level. In the case of multiple potential solutions the solution with the highest level of protection must be chosen, unless it would impose unreasonable efforts on the controller. To put it short, no material differences lay between this regulation and the IA, the principle of privacy-by-design is however worth highlighting. Privacy-by-design suggests privacy regulations should be observed as early as when designing data controlling operations,

[71] Actual recovery is not a must, it is enough to make the technical apparatus required to perform recovery to be available for the controller, either directly or indirectly.

and processes must be designed by considering the actual technology development level so that the protection of personal data is continuously maintained over the course of the entire controlling process.

In addition to privacy, let's also tap into the topic of insurance secrets, since UBI can be consumed, in addition to natural persons, by business entities and associations. According to Section 153 of the IA, and with the exception of classified data defined in Act CLV of 2009 on the protection of classified data, insurance secrets include all data which contain information on the personal and financial conditions and situation, property management, and on the agreements concluded with the insurance or re-insurance companies of the customers (including injured parties). Based on this, data originating from systems on which UBI relies qualify as trade secrets, since they are related to providing the services. The responsibility of maintaining and protecting trade secrets is not only that of the relevant ICs, but is extended to all parties contributing to providing the services in any form, including providing the technical backgrounds, and therefore get access to the data in the course of their contributions. Aggregated, cumulated and consolidated data insufficient to and incapable of determining the persons and business information of individual insured parties shall not qualify as the concept of trade secrets.[72]

As mentioned in the discussion on pricing, the main rule of the prevailing law enables the assessment and enforcement of risks on which pricing is based per fix terms (insurance periods). To accomplish this, it is just enough to record and consolidate data and patterns relevant for pricing, that is UBI fees can be calculated by collecting and processing only cumulated data and no further personal data. The benefits of real-time data collection are apparent in the issues of being able to determine conditions and circumstances relevant for the insurance as a legal relationship and to be able to determine responsibility. The technology behind UBI must therefore be designed so that it is able to protect both personal data and insurance secrets. The principles of privacy-by-design require data collection be designed so that only data relevant for the insurance are recorded, and the systems should use aggregated, cumulated and derived values in each operation where it is possible and viable.[73] Developers of the data collector infrastructure must also pay attention to the fact that vehicles may cross country borders and, because of the high costs of data transmission from foreign countries via roaming, local storage must also be supported.

[72] IA sub-section 1/a of Section 159.

[73] For calculating fees, it may be sufficient to know only whether the insured party left, entered or stayed in a specific geographic zone relevant for the insurance during the given period.

4. Summary

The study outlined the concepts and benefits of usage-based vehicle insurances, and presented the telematics systems and vehicle data sources providing the technical grounds for such insurance models. It also discussed the relevant concerns related to insurance law and privacy. Telematics-supported UBI products can significantly increase the efficiency of risk management in ICs, and support achieving the goals of damage and loss prevention, mitigation and compensation. To put it together, such products can provide the grounds for more precise risk assessment than ever and for comprehensive, end-to-end risk management. Advantages of UBI appear not only at the insured parties' side, and more advantageous payment options are not the only benefits.

Advantages of UBI are apparent for both the consumers and the ICs, however exploitation of such benefits requires some fine-tuning in the regulations, as well the implementation and penetration of the infrastructure serving as the background for UBI models. As discussions on pricing uncovered, the prevailing law does not fully support the spread of UBI, and such insurances can only be applied with some significant restrictions for compulsory motor insurances for a limited customer segment, while there are much less limitations for property insurances. The authors of this paper therefore suggest performing a revision of insurance law in order to support the development of more efficient insurance products than those of today, and which should be available for more and wider customer segments.

Clash of interests – is behaviour-based price discrimination in line with the GDPR?

BÖRÖCZ, ISTVÁN

ABSTRACT *Data serves as a resource for organisations to create new economic value. Due to the rapid technological development society tries to catch up and learn how to utilise the new, continuously expanding range of tools. Market actors rely on data from different sources, as they can predict personal traits, attributes, thus individual and social needs, meaning they do not have to wait for those needs to emerge, they are able to predict and determine the role and function of a new innovation. The providers and developers of various services want to increase and maximise their profit and market share through the exploitation of the cognitive vulnerabilities of the user. One possible way is behaviour-based price discrimination. With big data analytics organisations have an exceptional opportunity to add additional value to their services, such as optimising business processes and performance with personalised pricing. This approach means that the object of both the aforementioned tendencies and privacy-centric legislation is, through his personal information, the individual. The purpose of this paper is to examine a possible consequence of datafication in the field of personalised services with special regard to its effects on the private life of the individual. The paper will also mention several tools by which it might be feasible to protect privacy.*

KEYWORDS *profiling, big data, price discrimination, privacy, GDPR, data protection by design, data protection impact assessment*

1. Introduction

Data has been described as the *"new oil of the internet and the new currency of the digital world"*[1], which serves as a resource for private undertakings to create new economic value.[2] Due to the proliferation of

[1] Kashmir Hill, "Would Monetizing Our Personal Data Ease Privacy Concerns?" *Forbes* (2010) accessed July 9, 2016, http://www.forbes.com/sites/kashmirhill/2010/09/20/would-monetizing-our-personal-data-ease-privacy-concerns/

[2] Viktor Mayer-Schönberger and Kenneth Cukier, *Big Data* (Great Britain: John Murray, 2013), 13.

automated data processing operations in the market sphere, the individual and, more importantly, his personal data have become the fuel of the digital economy.[3] With enhanced data analysis tools (referred to as big data analytics), private undertakings not only measure almost everything of an individual but with the results they can predict personal traits, attributes, thus individual and social needs[4] as well. The foreseeability of the future is not only a capability, but a necessity as well: companies need to predict the effects of a new product or react immediately to external changes in order to keep their market share and increase their profit rates, otherwise competitors will outpace them. As the Red Queen (from Alice in Wonderland) explained: *"Here, you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!"*[5] To get somewhere else, undertakings need a crucial element: personal data. The information-based exploitation of the individual and protection of the right to private life (and the right to the protection of personal data) are conflicting approaches and occasionally result in either circumvention or breach of legal provisions or raise obstacles to technological development. A 'good' impact assessment takes into consideration both interests while defining the possible mitigation measures.

If almost every segment of an individual's life is quantified and translated into information in digital form, the processing of this data – by the controller to provide a personalised service – might violate the individual's right to private life even more than it would be necessary. If the user becomes completely transparent[6] for the service provider, he will become mistrustful and will try to avoid the source of his vulnerability. Society is flooded with the aforementioned services offering various forms of benefits, usually for free. Or at least it looks like they are free. According to Jonathan

[3] European Data Protection Supervisor, "Privacy and competitiveness in the age of big data: The interplay between data protection, competition law and consumer protection in the Digital Economy", (2014) accessed July 9, 2016. https://secure.edps.europa.eu/EDPSWEB/webdav/shared/Documents/Consultation/Opinions/2014/14-03-26_competitition_law_big_data_EN.pdf

[4] An occasion or a social need is an indicator for a new product or technology to emerge. After the indicating occasion the research begins, followed by design and prototyping. If the product is ready, it will be implemented in the market and its presence will be maintained. The lifecycle ends with the end of use. For more information about product lifecycle management read: Antti Sääksvuori and Anselmi Immonen, *Product lifecycle management* (London: Springer, 2005)

[5] Lewis Carroll, *"Through the Looking Glass, and what Alice found there"* (London: Macmillan & Co., 1871)

[6] Due to the disproportionate data processing methods of the controller.

Zittrain *"if you're not paying for it, you're not the customer; you're the product"*.[7]

The object of both the introduced tendencies and privacy-centric legislation is, through his personal information, the individual. Service providers and developers want to increase their profit and market share through the exploitation of the user. The role of the Data Protection Directive (DPD)[8] along with its successor, the General Data Protection Regulation (GDPR) is to protect the *"fundamental rights and freedoms of natural persons and in particular their right to the protection of personal data."*[9] The information-based exploitation of the individual and protection of the right to private life (and the right to the protection of personal data) are conflicting approaches and occasionally result in either circumvention or breach of legal provisions or raise obstacles to technological development. The GDPR might be able to minimise the damage in this conflict, but in order to do so, the potential directions of the development of personalised services should be clarified.

The purpose of this paper is to examine a possible consequence of datafication in the field of personalised services with special regard to behaviour-based price discrimination, its effects on the private life of the individual and the approach the GDPR pursues to provide an appropriate response to datafication. The paper comprises four parts. The first chapter will summarise the functioning of services based on user profiles. The second chapter will focus on the nature and potential effects of big data on the aforementioned types of services. The third chapter will introduce the economic aspects of profiling, namely price discrimination and whether big data will be able to evoke a shift between the different levels of price discrimination. The fourth chapter will emphasise the relevant principles of the GDPR and the tasks to be done until it enters into force.

2. A short summary of services based on profiling

At the end of the 1960's the development of information technology made it possible for states to change the type of storage of public registers

[7] Jonathan Zittrain, *"Meme patrol: When Something Online is Free, You're Not the Customer, You're the Product"*, The future of the internet and how to stop it, March 21, 2012, accessed July 9, 2016.
http://blogs.law.harvard.edu/futureoftheinternet/2012/03/21/meme-patrol-when-something-online-is-free-youre-not-the-customer-youre-the-product/

[8] Directive 95/46/EC of the European Parliament and the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data [1995] OJ L281/31

[9] Regulation (EU) No 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) [2016] OJ L119/1

from the paper-based form to electronic form. This allowed faster search within the database with more accurate results, furthermore made the misuse of data[10] significantly easier. The personally identifiable information[11] became digitised, thus databases, where information[12] was aggregated, became able to provide information about different aspects of the life of an individual. The general need for automated data processing operations has arisen across Europe.[13] The statutory power realised that aggregated information about its citizens will eventuate a centralisation of power.[14] The potential benefits of technological development envisaged the importance of digital profiles 40 years ago for the 'Little Brothers'[15] as well.[16] Besides the benefits, potential threats were also discussed on a large scale.

Profiling has been a relevant issue since, and to understand its nature, it should be defined from a theoretical, pragmatic and legal perspective as well.

(1) *Theoretical perspective:* Haggerty and Ericson base their theory about the so-called 'surveillant assemblage' on the body of the individual, which is divided into a physical one, and a decorporealised body, a 'data double'.[17] This digital copy of the person[18], became more important than his physical reality, because

[10] Data can be misused by circumventing the physical obstacles of paper-based data stores. The transparency and effective processing of paper-based databases depends on the actual size of the database, furthermore the existence of a proper catalogue is essential.

[11] Personally identifiable information (PII) is any data that could potentially identify a specific individual.

[12] For example, in the state of Hesse the local government wanted to create a database wherein more than 70 types of records would refer to the individual.

[13] Only among states because the technology was too expensive, thus only the central power was able to afford it. For more information, read: Herbert Burkert, "Privacy – Data Protection – A German/European Perspective," in *Governance of Global Networks in the Light of Different Local Values, ed.* Christoph Engel and Kenneth H. Keller (Baden-Baden: Nomos Verlagsgesellschaft, 2000): 43-49. http://www.coll.mpg.de/sites/www/files/text/burkert.pdf accessed July 9, 2016.

[14] Discussions have started regarding the centralized and decentralized systems. For more information, read: Burkert *op.cit.*

[15] Based on the novel "1984" by George Orwell, the state is considered as Big Brother, while market actors are the Little Brothers.

[16] Gergely László Szőke and Attila Kiss, "Evolution or Revolution? Steps Forward to a New Generation of Data Protection Regulation," in *Reforming European Data Protection Law* ed. Serge Gutwirth et al. (London: Springer, 2015): 313.

[17] Kevon D. Haggerty and Richard V. Ericson, "The surveillant assemblage," in 51 *British Journal of Sociology* 605, 611 accessed July 9, 2016, http://bigo.zgeist.org/students/readings/IPS2011/8/Haggerty%20ericson%202000.pdf

[18] Which is technically pure information.

the object of the different governmental and market practices, such as surveillance, or of a service is not the person himself, but his data double. Deleuze calls this divided individual the 'dividual'.[19] The elements of the dividual are not necessarily the same; therefore, the creation and use of the digital copies required further clarification.

(2) *Pragmatic perspective:* Degeling makes a distinction between three types of profiles: transaction profiles,[20] role profiles[21] and person profiles.[22,23] Hildebrant divides the profiles (which are the person profiles in the system of Degeling) into group profiles and personalised profiles, whereas the *"group/personalised profile identifies and represents a group/person, of which it describes a set of attitudes"*.[24] She also emphasises the essence of profiling: *"it makes visible patterns that are invisible to the naked human eye, highlighting – on the basis of mathematical techniques – previously unknown structures of reality in flux"*.[25] These definitions of profiling bear a strong resemblance to the definition of big data.[26] While knowledge discovery through profiling aims to know more about the individual, knowledge discovery through big data has no such limits, it can be applied in numerous – including hitherto neglected – parts of life.

(3) *Legal perspective:* The phenomenon of profiling was regulated by numerous legal documents, usually referred to as 'automated individual decisions' or 'automatic processing of personal data', including CoE 108, the OECD guidelines, or the Data Protection

[19] Gilles Deleuze, "Postscript on the Societies of Control," *The MIT Press* 59 (1992): 3-7.
https://cidadeinseguranca.files.wordpress.com/2012/02/deleuze_control.pdf accessed July 9, 2016.

[20] These profiles are based on information which is required for a specific transaction.

[21] These profiles are based on information regarding the visit and use of a website by the user.

[22] These profiles are based on information regarding the entire internet traffic and behaviour of a user.

[23] Martin Degeling, "On the vagueness of online profiling" (2015) Conference Paper 5-6, accessed July 2, 2016,
http://martin.degeling.com/pubs/OnTheVaguenessOfOnlineProfiling_ProfilePredictPrevent_Degeling.pdf

[24] Mireille Hildebrandt, "Profiling: from data to knowledge," *Datenschutz und Datensicherheit* 30 (2006): 548-549. accessed July 9, 2016, http://www.fidis.net/fileadmin/fidis/publications/2006/DuD09_2006_548.pdf

[25] Mireille Hildebrandt, "Who is profiling Who? Invisible Visibility," in *Reinventing Data Protection?* ed. Gutwirth et al. (London: Springer, 2009): 241.

[26] About the definition and characteristics of big data, read chapter 4.2

> Directive. The Article 29 Data Protection Party (WP29) distinguishes two types of profiles: predictive profiles and explicit profiles. The former are based on visited pages and advertisements (either viewed or simply clicked on) by the user – the profile is created through the observation of the behaviour. The latter are created from personal related information provided by the user (e.g. via registering). These profiles are not necessarily separated; they can serve as a complementary element of each other.[27]

Profiles are used in numerous fields, whereby only previously tailored, filtered content is shown to the user, matching his field of interest, financial or physical status, etc. The personalised content increases user experience, since generally a user is looking for information on the internet for a purpose – for example to expand his knowledge, to read the news, or simply to relax. Without personalised services the search of the user, to find the most suitable content to satisfy his needs, would require significantly more time and effort. Any other content is irrelevant, superfluous, or bothering. Advertisements on websites are not an exception. If only the appropriate content is shown on a website, the user experience will increase as well, since there is an increased chance to click on the advertisement. At the end of the process behavioural advertising is also beneficial for advertisers: they pay to the service provider in order to show the appropriate advertisement to each user, since the aim of the advertiser is to find the potential customers.

There are multiple versions of behavioural advertising: onsite, contextual or network behavioural targeting.[28] With onsite targeting the advertisements are in correlation with the content of the website and they are offering a service provided by the same website (i.e. in an online bookstore specific books are suggested, based on the user's interest). Contextual behavioural targeting means that the advertisements have the same topic as the content of the website but they refer to an external service provider (i.e. on a website with information about planting flowers the advertisement refers to an online webshop where gardening tools are offered). Network behavioural targeting is based on a network between participating websites. The recorded surfing through the participant websites allows the ad-publishers to put the adequate advertisements on the member's website (i.e. after the online bookstore the

[27] Opinion 2/2010 of the Article 29 Data Protection Working Party of the European Commission on online behavioural advertising (WP171), 22 June 2010, 7 http://ec.europa.eu/justice/policies/privacy/docs/wpdocs/2010/wp171_en.pdf accessed July 9, 2016.

[28] Read more at: Know online advertising, accessed July 9, 2016, http://www.knowonlineadvertising.com/targeting/behavioral-targeting/

user visits the online webshop with gardening tools, but the advertisements on the website are offering books).[29]

3. Is big data important?

Collecting information about users, evaluating it with big data analytics, in order to provide better services, has become a commonly used business practice in recent years. As the costs of metering devices and the storage of data are dropping permanently, exploiting the opportunities of large databases is becoming an economic need. Moore's law[30] applies to the decrease in the prices of data processing as well. Data is collected from numerous sources: information provided by the user himself, recording his behaviour, prediction based on former actions, etc. Not only the sources, but also the principles of collection have become different.

Two general types of data collecting approaches can be specified: 'select before collect' and 'collect before select'.[31] With 'select before collect' the data controller decides what type of (personal) data it wants to process prior to the collection, the actual collecting mechanism begins only afterwards. 'Collect before select' covers the exact opposite: *"In the old, data-is-scarce model, companies had to decide what to collect first, and then collect it, but with the new, data-is-abundant model, we collect first and ask questions later."*[32] The latter approach is closer to the definition of profiling and big data – with nearly unlimited data collected from an inexhaustible source[33] user profiles can continuously be refined and improved. Personalisation increases user experience, also for example the chance to click on a personalised advertisement and buy a product. As part of the analysis of the data, the collected information will be evaluated by different analytical methods or data mining processes – this is where big data analytics (BDA)

[29] For more information read: Network Advertising Initiative, accessed July 9, 2016, https://www.networkadvertising.org/

[30] Moore's Law is a computing term which originated around 1970; the simplified version of this law states that processor speeds, or overall processing power for computers will double every two years. Read more at: http://www.mooreslaw.org/ accessed July 9, 2016.

[31] About "select before collect" and "collect before select" principles, read more at: Hielke Hijmans, "Recent developments in data protection at European Union level," *ERA Forum* 11 (2010): 219-222. http://link.springer.com/content/pdf/10.1007%2Fs12027-010-0166-8.pdf accessed July 9, 2016.

[32] Perambulation, "*Big Data Is Our Generation's Civil Rights Issue, and We Don't Know It*" (31 July, 2012) http://solveforinteresting.com/big-data-is-our-generations-civil-rights-issue-and-we-dont-know-it/ accessed July 9, 2016.

[33] For example, in real time analysis the same type of data has to be collected multiple times.

operates. The main goal is to enhance the adequacy of the outcome of the analysis. The real time analysis (as a significant element of BDA) requires enhanced analysis algorithms (along with high quality hardware) to cope with the increased volume.

The Working Party defined the big data phenomenon as follows: *"Big data is a broad term that covers a great number of data processing operations, some of which are already well-identified, while others are still unclear and many more are expected to be developed in the near future."*[34] Ira Rubinstein understands big data analytics as a process which discovers previously unknown facts, correlations and patterns within a database. To find new knowledge, continuous analysis of new and already existing datasets is essential: "what makes most big data big is repeated observations over time and/or space."[35]

Another widely used method of describing the technical aspects of big data is to use the expanded Gartner definition, the so-called '3V'. Gartner Inc., an information technology research and advisory company described big data in 2011: *"Big Data are high-volume, high-velocity, and/or high-variety information assets that require new forms of processing to enable enhanced decision making, insight discovery and process optimization"*.[36] Later this definition was expanded with multiple V-s (such terms as variability, value, or virtual), but 'Veracity' and 'Value' are the most descriptive attributes.[37] In most cases the results are more important than the mere parts, meaning recombining elements or parts of a database or multiple databases can give us more information compared to using its single elements.[38] Adam Jacobs emphasises the relevance of the continuous analysis of new and already existing datasets: *"what makes most big data big is repeated observations over time and/or space."*[39]

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[34] Statement on Statement of the WP29 on the impact of the development of big data on the protection of individuals with regard to the processing of their personal data in the EU (WP 221), 2014, accessed July 9, 2016, http://ec.europa.eu/justice/data-protection/article-29/documentation/opinion-recommendation/files/2014/wp221_en.pdf

[35] Adam Jacobs, "The Pathologies of Big Data" 8 *Communications of the ACM 52 (2009): 36* http://dl.acm.org/ft_gateway.cfm?id=1536632&ftid=661954&dwn=1&CFID=458347211&CFTOKEN=95392586 accessed July 2, 2016.

[36] Douglas Laney, *The Importance of 'Big Data': A Definition* (21 June, 2012) https://www.gartner.com/doc/2057415/importance-big-data-definition accessed July 9, 2016.

[37] Read more at: Conn. Stamford, "Gartner Says Solving 'Big Data' Challenge Involves More Than Just Managing Volumes of Data," June 27, 2011, http://www.gartner.com/newsroom/id/1731916 accessed July 9, 2016.

[38] Mayer-Schönberger and Cukier, Big Data, 123.

[39] Jacobs, "The Pathologies,"

The results of a search as well as news on several news sites are influenced by user profiles as well. The content of the service is similar to the taste, political opinion, religion or other beliefs of the user, whereas critical opinions and different perspectives remain hidden.[40] This will put the user into a filter bubble[41] which might never even be noticed. According to Eli Pariser, the filter bubble surrounds users with content which supports them in their beliefs, but in the meantime it down-ranks information about opposing opinions and other relevant social topics.[42] Without filters users have opportunity to define who they are, what they like, what they hate, etc. In a filter bubble they are defined by algorithms, through their digital copies. They are being told who they are, what they like, how they feel.[43] Andrew Leonard worried about losing the possibility to produce individual thoughts: *"The companies that figure out how to generate intelligence from that data will know more about us than we know ourselves, and will be able to craft techniques that push us toward where they want us to go, rather than where we would go by ourselves if left to our own devices."*[44] The current tendencies and potential business benefits of automated data processing operations underline the need for an effective protection of the rights and freedoms of users. The next section will narrow down the application of BDA in the field of personalised services with the aim to maximise profit for the service provider.

4. Big data influenced price discrimination

Transaction profiles (defined by Degeling) are usually used for third degree price discrimination.[45] The aim of this chapter is to examine the

[40] Eytan Bakshy and Solomon Messing and Lada Adamic, "Exposure to ideologically diverse news and opinion on Facebook" (2015) http://www.sciencemag.org/content/early/2015/05/08/science.aaa1160.full accessed July 9, 2016.

[41] About filter bubbles read: Eli Pariser, *The Filter Bubble. What the Internet Is Hiding from You* (New York: The Penguin Press, 2011)

[42] Eli Pariser, "A New Study From Facebook Reveals Just How Much It Filters What You see" (May 7, 2015) http://gizmodo.com/a-new-study-from-facebook-reveals-just-how-much-it-filt-1702900877 accessed July 9, 2016.

[43] Neil M. Richards and Jonathan H. King, "Three Paradoxes of Big Data," 66 *Stanford Law Review Online* 41, 43 http://www.stanfordlawreview.org/sites/default/files/online/topics/66_StanLRevOnline_41_RichardsKing.pdf accessed May 01, 2015.

[44] Andrew Leonard, "How Netflix Is Turning Viewers into Puppets" (February 1, 2013) http://www.salon.com/2013/02/01/how_netflix_is_turning_viewers_into_puppets accessed July 9, 2016.

[45] Degeling, "On the vaguenes," 5-6.

effects of using person profiles in price discrimination. Maximisation of the revenue is unequivocally the main motivation factor for private undertakings. It can be achieved – inter alia – through obtaining and maintaining the trust of customers, which is an indispensable requirement of modern consumer society.[46] In order to do that services must follow global trends by tailoring their services to the needs of customers or tailor customer needs to the services they provide (for better understanding the first approach will be used hereinafter as an example). To appropriately adjust their services to individual needs, service providers need to know every important – and seemingly unimportant – detail about their customers, however the more information they collect, the more trust they lose.[47] The standards of society are increasing; meanwhile collective tolerance for untrustworthy behaviour is changing in the opposite way, which requires permanent trustfulness from service providers. This could be achieved – *inter alia* – by careful compliance with the provisions of law and small (but relevant) developments in the service, leaving time for customers to get used to them. Customers are mostly comfortable with online business practices as they seem to get used to them (or not noticing them at all).[48]

Price discrimination is not a business behaviour evoked by the internet. It first appeared in 1920, under the phrase „first degree price discrimination", described by economist Arthur Cecil Pigou.[49] The other parts of the typology (namely second degree and third degree price discrimination) appeared as well in business practices, but nowadays with the expansion of the range of using personal profiles and BDA, behaviour-based price discrimination (hereinafter BBPD) seems to be the designated area where customer-related changes and developments can occur. BBPD is a relatively common practice

[46] As it was emphasized already in the Bangemann Report (Bangemann report, Europe and Global Information Society (1994) http://www.cyber-rights.org/documents/bangemann.htm accessed July 9, 2016.

[47] This is one possible interpretation of the so-called personalisation privacy paradox. About the personalization privacy paradox read more at: Naveen Farag and M. S. Krishnan, "The Personalization Privacy Paradox: An Empirical Evaluation of Information Transparency and the Willingness to be Profiled Online for Personalization" 1 *MIS Quarterly* 13 (2006) http://www.jstor.org/discover/10.2307/25148715?uid=3738736&uid=2&uid=4&sid=21106723449673 accessed July 9, 2016.

[48] Eurobarometer: Special Eurobarometer 359. Attitudes on Data Protection and Electronic Identity in the European Union (2011) 62 http://ec.europa.eu/public_opinion/archives/ebs/ebs_359_en.pdf accessed July 9, 2016.

[49] About the typology of Arthur Cecil Pigou read more at: Arthur Cecil Pigou, *The Economics of Welfare* (London: Macmillan and Co., 1920), or Carl Shapiro and Hal R. Varian, *Information Rules: A Strategic Guide to the Network Economy* (Boston: Harvard Business School Press, 1998)

for market actors with a wide scope of application, since the related legal provisions are not unambiguously clear.

4.1 Legal understanding of price discrimination

Art. 102 (c) of the Treaty on the Functioning of the European Union (hereinafter TFEU) considers price discrimination as an *"abuse by one or more undertakings of a dominant position within the internal market"*, where abuse consists in *"applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage"*.[50] The European Court of Justice extended this definition. According to its interpretation, Article 82 (c) of the Treaty Establishing the European Community[51] (which became Article 102 (c) of the TFEU) means that some forms of price discrimination may be considered as an abuse of a dominant position.[52] The interpretation of the TFEU is not sufficient for distinguishing price discrimination from other business practices, thus price discrimination should not be considered as unlawful per se. A more clear explanation was provided by Richard Posner: *"price discrimination is a term that economists use to describe the practice of selling the same product to different customers at different prices even though the cost of sale is the same to each of them."*[53]

The basic objective of price discrimination is the maximisation of consumer surplus. Based on the process three types can be distinguished: first, second and third degree price discrimination.[54] Third degree price discrimination takes places when the different prices are based on the elasticity of demand of groups of customers. Second degree price discrimination means the price varies with the quantity of products to be bought. First degree price discrimination occurs when the market actor is able to perfectly distinguish the consumers, meaning it can provide an individualised offer. This can be achieved only if the market actor has perfect knowledge about its customers and their willingness to pay.[55]

[50] Consolidated version of the Treaty on the functioning of the European Union [2012] OJ C326/46 art 102 (c)

[51] Consolidated versions of the Treaty on European Union and of the Treaty Establishing the European Community [2002] OJ C325/1

[52] For more information about the decision of the European Court of Justice, read: *Italian Republic v Commission* [1963] ECR-165 in the context of the ECSC Treaty

[53] Richard Posner, *Antitrust Law* (Chicago: University of Chicago Press, 2001), 79-80.

[54] This typology was set by Arthur Cecil Pigou in his book, The Economics of Welfare, in 1920.

[55] Damien Geradin and Nicolas Petit, "Price Discrimination under EC Competition Law: The Need for a case-by-case Approach." 5 *The Global Competition Law Centre Working Paper Series* (2007): 1,5.

In the online market the typology is appropriate and applicable as well, although it has a slightly different meaning. According to Shapiro and Varian,[56] third degree price discrimination can be considered as an equivalent of group pricing: setting different prices for different groups of consumers. Second degree price discrimination means versioning: offering a product line and letting users choose the version of the product most appropriate for them. First degree price discrimination can be interpreted as personalised pricing where the aim is to sell to each customer at a possibly different price.[57] With the commercialisation and global accessibility of the internet the number of purchases made online are permanently increasing, which makes it possible for the seller or service provider to segment customers on the basis of their purchasing histories and discriminate accordingly. The described market behaviour is referred to as BBPD. One of the well-known examples of BBPD is the former practice of Amazon. The webstore offered different DVD prices for different customers based on the information collected via its cookies. Customers realised that if they remove the cookie which identified them as old customers (who already visited the website), they will be treated as new customers by the website and will be offered with (lower) prices designated for first visitors. Amazon was forced by the public to end the practice and refund the injured customers.[58] Cookies are appropriate tools to identify an individual, however in the aforementioned business practice they were used to establish general patterns of user behaviour. The use of behaviour patterns can be considered as a prerequisite of first degree price discrimination. To overcome the limit and reach first degree price discrimination (thus perfect discrimination), market actors need individual user profiles – profiles which are created and based on BDA.

4.2 Discrimination based on profiles

In order to successfully evaluate the process "discrimination based on profiles" the correct meaning of the words should be examined and used.

https://www.coleurope.eu/content/gclc/documents/GCLC%20WP%2007-05.pdf accessed July 9, 2016.

[56] Carl Shapiro and Hal R. Varian, *Information Rules: A Strategic Guide to the Network Economy* (Boston: Harvard Business School Press, 1998)

[57] Rosa Branca Estevez, "A Survey on the Economics of Behaviour-Based Price Discrimination," 2 *Núcleo de Investigação em Políticas Económicas* 1 (2009) http://www.nipe.eeg.uminho.pt/Uploads/WP_2009/NIPE_WP_5_2009.pdf accessed July 9, 2016.

[58] Leena Helminen, "Why do firms collect data on customers? A behaviour-based price discrimination approach" (Master's thesis, Aalto University, 2011) 9 accessed July 9, 2016, http://epub.lib.aalto.fi/en/ethesis/pdf/12714/hse_ethesis_12714.pdf

The word "*discrimination"* derives from Latin, where the verb *'discrimire'* means "*to separate, to distinguish, to make a distinction"*. In American English language it evolved as an understanding of prejudicial treatment of an individual based solely on their race.[59] In the field of economics discrimination refers to the original, neutral meaning of the word. Discrimination based on profiles thus means that a machine (an algorithm) separates users based on personal information. The process raises ethical questions as well: for example, whether the distinction is generally accepted, socially desired, or it is a taboo. With the current state of the art, machines are not able to decide whether their processes are ethical or not.[60] Even if the process were to be conducted by a human being, it would be hard to define the illegal/unethical forms of price discrimination. Even a precisely written algorithm can only make – without prejudice to the abilities of the developer – subjective decisions, which might be inaccurate and wrong in certain situations. Also if the profile is highly influential, for example the user is put into a filter bubble or led by other personalisation techniques, the algorithm might be able to change his beliefs about himself, his social status, change his behaviour, or manipulate his consumer behaviours, such as make him believe that he can afford the product even for a significantly higher price.[61] This envisages an extended liability for the market actor, with special regard to ethical issues, which the market actor wants to avoid, since an ethically questionable perfect discrimination might not be significantly more beneficial than third degree price discrimination.

A study showed that 96-97% of users allow some cookies and 85-90% allow third party cookies.[62] This user behaviour provides a clear way for BBPD to become a common and accepted business practice; however, it has its loopholes as well.[63] A relevant obstacle for BBPD is anonymisation by

[59] Anthony Giddens and others, *Introduction to sociology* (New York: W. W. Norton & Company Inc., 2009), 324.

[60] Omer Tene and Jules Polonetsky, "Judged by the Tin Man: Individual Rights in the Age of Big Data" *Journal on Telecommunications and High Technology Law* 2 (2013): 351-356. http://www.jthtl.org/content/articles/V11I2/JTHTLv11i2_Polonetsky.pdf accessed July 9, 2016.

[61] Anna Donovan and Rachel Finn and Kush Wadhwa, eds., *"Deliverable D2.1: Report on legal, economic, social, ethical and political issues"* (Big data roadmap and cross-disciplinarY community for addressing socieTal Externalities (BYTE) Project, 2014), 70 http://byte-project.eu/wp-content/uploads/2014/10/BYTE-D2.1_Final_Compressed.pdf accessed July 9, 2016.

[62] Conducted by ProWebmasters 2014. http://webmasters.stackexchange.com/questions/58210/do-many-users-turn-off-cookies accessed July 9, 2016.

[63] Executive Office of the President of the United States, "Big Data and Differential Pricing" (2015), 4.

the user himself. Like in the aforementioned case of Amazon, if the customer manages to hide his true identity from the market actor (by deleting or blocking advertisers' ad scripts, thus cookies before entering the website),[64] he could be offered with introductory prices.[65] Big data is an incentive for a shift from third degree price discrimination to first degree price discrimination, but currently market actors only use it to explore consumer demand, to enhance the quality of behavioural advertising and to lead the customer to the product.[66] There are examples for perfect discrimination as well, but only as an experimental approach.

Summarising the previous chapters: the comprehensive set of information about the user exists and it is in the possession of the market player. Furthermore, it is only a matter of time, when the issues of the shift between the different forms of price discrimination will be solved. Until then the profiles are maintained and refined with BDA. With big data, re-identification of the individual is possible, thus the content of the database will be personal data. The main goal of the DPD is to regulate technology (focusing on automated data processing operations) in order to protect the right to private life of the individual. The GDPR will move a step forward and require data controllers to consider and implement the protective measures during the development phase, thus compliance with the provisions will become easier later on.

5. Built-in protection

In general new techniques are mostly advantageous for society, however numerous issues are also raised, such as discrimination, exploitation or manipulation.[67] The mere existence of data protection law cannot provide sufficient protection for individuals every time, because, compared to legislation, technology is changing too fast. Due to this detrimental status in most cases the aim of the law is to react to the effects of technological innovations, granting service providers the formerly possessed leading role to shape and express the norms of society. To avoid this, the principle of accountability was introduced in the GDPR. Article 24 (1) requires the controller to *"ensure and be able to demonstrate that the processing of personal data is performed in compliance with this Regulation"*.[68]

https://www.whitehouse.gov/sites/default/files/docs/Big_Data_Report_Nonembargo_v2.pdf accessed July 9, 2016.

[64] For example with AdBlock Plus.

[65] Helminen op.cit. 42.

[66] Executive Office of the President of the United States op.cit. 19.

[67] For more information, read BYTE project D2.1, 65.

[68] Article 22 GDPR

The legislator demands full compliance from the data controller, but on the other hand he also provides assistance to the controller to help him meet those requirements without excessive effort. To be able to ensure and demonstrate compliance, additionally to avoid sanctions, the data controller has to take into consideration *inter alia* the risks to the rights and freedoms of data subjects.[69] To assess these risks the data controller needs comprehensive knowledge of the envisaged operations, as well as tools to treat them if needed. Among the revision and clarification of the current provisions the Regulation will require certain new (and renewed) types of activities from the controller, such as the documentation of processing activities (art. 30), application of data protection by design and by default, notification of personal data breaches (art. 33), data protection impact assessment (art. 35) or the use of codes of conduct and certifications (art. 40 and 42). To make both the remaining and new obligations more comprehensible the legislator introduced an umbrella principle in Article 24 (responsibility of the controller), commonly referred to as the principle of accountability.

According to its general definition, accountability refers to a *"relationship between an actor and a forum, in which the actor has an obligation to explain and to justify his conduct, the forum can pose questions and pass judgment, and the actor may face consequences"*.[70] Although accountability, as an explicit principle, has existed in international data protection law for thirty years,[71] in EU data protection law it will debut in the GDPR. Accountability mechanisms are apparent in the Directive as well; however, they are based on a reactive approach, meaning data controllers are held accountable after their activities result in a complaint.[72] During the preparatory work for the regulation the European Commission expressed the necessity to find *"ways of ensuring that data controllers put in place effective policies and mechanisms to ensure compliance with data protection*

[69] Article 24 GDPR

[70] About the notion and types of accountability, read: Mark Bovens, "Analysing and Assessing Accountability: A Conceptual Framework" 13 *European Law Journal* 447, http://onlinelibrary.wiley.com/doi/10.1111/j.1468-0386.2007.00378.x/epdf accessed July 9, 2016.

[71] For example, Article 14 in the OECD guidelines (1980): Organisation for Economic Co-operation and Development (OECD), "Recommendation of the Council concerning Guidelines governing the protection of privacy and transborder flows of personal data".

[72] Joseph Alhadeff and Brendan van Alsenoy and Jos Dumortier, "The Accountability Principle in Data Protection Regulation: Origin, Development and Future Directions," in D. Guagnin and L. Hempel and C. Ilten, eds., *Managing Privacy through Accountability* (Palgrave Macmillan, 2012), 75. http://ssrn.com/abstract=1933731 accessed July 9, 2016.

rules".[73] The opinion implies that the Directive is not entirely sufficient. The Working Party underlined this statement: *"the present legal framework has not been fully successful in ensuring that data protection requirements translate into effective mechanisms that deliver real protection"*.[74] The principle in the Regulation will follow a proactive approach, meaning data controllers shall *"ensure and be able to demonstrate that the processing of personal data is performed in compliance with this Regulation"*.[75] To be able to ensure compliance during data processing, the controller needs to predict and assess the effects and consequences of his activity – which can be done by a risk assessment. In the GDPR the principle of data protection by design and by default and data protection impact assessment have the strongest proactive approach. If the controller complies with these rules, he will very likely be able to demonstrate compliance. However, this requirement evokes numerous questions: "What to do?" and, since the answer is written in the GDPR, more importantly: "How to do it?" The latter question is not entirely answered at the moment, but promising paths, initiatives exist.

5.1 Privacy Engineering

Although the subjects of Privacy by Design (hereinafter PbD) and Data Protection by Design are different, in order to avoid continuous differentiations, they will be considered as nearly identical tools from a structural and functional aspect. PbD, or as it appears in the GDPR, Data Protection by Design determines the means for data processing, moreover at the time of the processing itself. The concept is applicable to all types of data processing, especially to processing sensitive, medical health or financial data.[76]

PbD helps to make privacy the default setting, affecting IT systems, business practices, and networked infrastructure alike. Numerous strategies

[73] Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions – A comprehensive approach on personal data protection in the European Union 11 accessed July 9, 2016, http://ec.europa.eu/justice/news/consulting_public/0006/com_2010_609_en.pdf accessed July 9, 2016.

[74] Opinion 3/2010 of the Article 29 Data Protection Working Party on the principle of accountability (WP173) 2010, 3 http://ec.europa.eu/justice/policies/privacy/docs/wpdocs/2010/wp173_en.pdf accessed July 9, 2016.

[75] Art. 24 (1) GDPR

[76] Ann Cavoukian, "Privacy by Design. The 7 Foundational Principles", Information and Privacy Commissioner of Ontario (2011), accessed July 9, 2016. http://www.ipc.on.ca/images/resources/7foundationalprinciples.pdf

exist how to implement advanced data protection tools in business processes, such as data minimisation, de-identification processes or guaranteeing user access controls,[77] however to transform the strategy into reality the organisation will need skilled experts of privacy protection during the development phase of the project: privacy engineers. According to Cavoukian, *"privacy engineering is a discipline of understanding how to include privacy as a non-functional requirement in systems engineering."*[78] This could be essential for the organisations in order to save their brand's reputation and to reduce organisational risks.

Privacy engineers (with or without the help of DPIAs) are able to identify the data processing mechanisms in the project's system, evaluate it, and attempt to mitigate the possible risks. For this a privacy engineer must acquire multidisciplinary knowledge, which covers inter alia informatics, social sciences (human-computer relations), data protection law and cultural sensitivity.[79] To achieve this kind of knowledge, employees must participate in different data protection-centric trainings, which are provided by academics, law firms or other experts.[80]

Along with the 'by default' principle[81] these provisions cause additional tasks and further development, thus further expenses for the data controller. The principle has a strong precautionary approach and motivates organisations to take proactive measures. According to De Hert, the early engagement of data protection experts, while the policies and basic concepts are still under development, contributes to reaching full compliance with the provisions regarding the protection of personal data.[82] The principle aims to integrate the principles of data protection at the core of a project while keeping it effective and efficient; *"build it in, don't bolt it on."*[83] The

[77] Ann Cavoukian, "Using Privacy by Design to Achieve Big Data Innovation Without Compromising Privacy," Information and Privacy Commissioner of Ontario (2014), 20. accessed July 9, 2016, http://www.privacybydesign.ca/content/uploads/2014/06/pbd-big-data-innovation_Deloitte.pdf

[78] Ann Cavoukian, "Privacy Engineering: Proactively Embedding Privacy, by Design", Information and Privacy Commissioner of Ontario (2014), 3. accessed July 9, 2016, http://www.privacybydesign.ca/content/uploads/2014/01/pbd-priv-engineering.pdf

[79] Cavoukian, Privacy Engineering, 4.

[80] For further information read: Rebecca Herold, *Managing an Information Security and Privacy Awareness and Training Program* (New York: CRC Press, 2010)

[81] Art. 25 (2) GDPR

[82] David Wright and Paul De Hert, eds., *Privacy Impact Assessment* (Dordrecht: Springer, 2012), 465.

[83] Marie Shroff, "Protecting Biometric Data: Privacy by Design" (2010) http://www.privacy.org.nz/news-and-publications/speeches-and-presentations/protecting-biometric-data-privacy-by-design/ accessed July 9, 2016.

principle tries to lay down basic rules and give a plausible approach to designers, while taking into consideration every element of the Regulation simultaneously, although designing the service can be enormously difficult. An assessment afterwards can spot and highlight the errors and non-compliant mechanisms.

5.2 Difficulties in conducting a DPIA

The GDPR defines this tool as the Data Protection Impact Assessment (hereinafter DPIA). According to Article 35, the controller shall, prior to the processing, carry out an assessment of the impact of the envisaged processing operations on the protection of personal data, where a type of processing is likely to result in a high risk for the rights and freedoms of the individual. In principle, the controller is responsible for conducting a DPIA. To conduct the assessment with an expected quality he will need external support. The Regulation mentions the data protection officer as internal, the supervisory authority and codes of conduct as external help,[84] albeit other privacy experts are not excluded either.

Conducting a DPIA requires strong cooperation between the controller and the external legal support, especially where high-end technology is applied (e.g. big data analytics). The controller needs to comprehend the main characteristics of the processing operations, the types of processed data, moreover the expected outcomes and, in certain cases, the pursued legitimate interest. Although Article 35 (7) a) mentions only a "systematic description", other provisions in the Regulation have a detailed list of requirements (such as the record of processing activities in Article 30).

The method of DPIA is efficient in theory, however in practice multiple difficulties may arise. The data controller might not know everything about his processing operations, as the database is enormously large and the actual processing mechanisms might be automated and conducted by algorithms. As he is not a data protection expert, he relies on external legal knowledge. The exchange of information between the parties can raise issues if the communication between the parties is not effective or frequent. The assessment can be conducted successfully only if every element of the envisaged processing operation and of the procedure of the assessment is clear for both the controller and the external privacy expert. To achieve this on the one hand the controller shall describe extensively the details and functioning of the processing operations, the elements which are connected to personal information in every possible way, furthermore the reasoning behind the application of the designated tools. On the other hand, the legal expert shall describe the reasoning behind the whole assessment, including its goals, length, parts, intermediate and final results, liabilities and possible

[84] As described in Article 33 (2), (8) and Article 36 GDPR

consequences. Issues can also arise from the different goals and professional language the parties use. The meaning and importance of legal provisions are self-evident for a legal expert, but entirely confusing for an IT expert, and vice-versa. The parties need patience, openness and the intention to understand the point of view of the other party. There are numerous, developed tools for the parties which help to understand the main goals of the procedure (e.g. charts, questionnaires, etc.).

There are certain methodologies for both parties which help to understand the main goals of the procedure, such as the PIA methodology provided by CNIL,[85] but other guidelines in codes of conduct or in different forms are yet to be elaborated and implemented. Without such methodologies controllers might demote DPIA as a mere compliance obligation which needs to be done as soon and as simply as possible, without putting actual effort in it.

6. Conclusion

The effects of big data, from a technical point of view, are promising but not essential – big data improves the quality of services, but does not change them -, however from a legal point of view its impact is essential. This paper focused on the conflict between market actors and privacy-centric legislation and the possible ways to mitigate it. Market actors want to increase their profit and market share through the exploitation of the user, providing personalised services enhanced by big data analytics. The paper pointed out that this tendency would be able to evoke a change in price discrimination, although the personalised prices (which provide maximised income for the provider) have several drawbacks as well. On the other side the privacy-centric provisions aim to protect the right to the protection of personal data. After the examination of the conflict (focusing on profiling, big data and price discrimination) the last main chapter pointed out that the GDPR should be able to minimise the damage in this conflict through its proactive approach, but in order to do so, further steps should be taken. DPbD and DPIA can have pivotal roles in this process, but only with further refinement of the actual application processes.

[85] CNIL - Commission nationale de l'informatique et des libertés, “Privacy Impact Assessment (PIA)” Methodology (how to carry out a PIA), June 2015, accessed July 9, 2016.
http://www.cnil.fr/fileadmin/documents/en/CNIL-PIA-1-Methodology.pdf

Liability for Operation and Damages Caused by Artificial Intelligence – with a Short Outlook to Online Games

ESZTERI, DÁNIEL

ABSTRACT *Who should bear the legal responsibility if an artificial intelligence entity programmed to substitute somehow human deciding ability causes damage during working? Problems arising from the rapid development of emerging technology raise such legal questions, too, because the ways of its advancement are difficult to predict.*

This paper was written to analyze legal issues affecting software that iscontrolled by artificial intelligence and answer the question who should bear the liability for their function or even malfunction. Firstly, the general characteristics of artificial intelligence and its effects on our society are described, then the relationship of artificial intelligence and law covering the related current regulatory environment and its critics. The main question will be the liability for damages caused by such entities in Civil Law. In the last chapter of the essay, I draw up the behavior of AI in online virtual worlds and the legal problems in connection with them.

The paper was written in order to stimulate interest in the special field of relationship between AI and law and because articles dealing with the aforementioned problem in scientific literature are barely to be found.

KEYWORDS *artificial intelligence, civil liability, damages, online games, electronic agents*

1. General specifics and classification of artificial intelligence

1.1 General philosophical background of artificial intelligence

The rapid development of information technology has given birth to many phenomena in recent decades that have shaped fundamentally the arrangements of human society. Good examples are digitalization of books, acceleration of communication, and the development of information society in general. There is no doubt that one of the most astounding phenomena is the function of artificial intelligence (AI), which has inspired many

futurologists, authors, and artists. Software that includes AI functions is not just a simple tool in the hands of humanity anymore. They make individual decisions in the context of the tasks which they were written for.

The use of AI exites pure scientific experimentation in present days and it has become part of everyday life. AI programs try to predict how the schemes of market effect the functioning of stock exchanges,[1] show us which the cheapest and shortest way by car to the next town on the motorway is and they even control the opponents in computer games on which the human player's task is to overcome. Communication with artificial intelligence has become an important part of our daily life. In the virtual space of the internet, users often communicate with software that are controlled by AI functions.

Because legal systems do not know exactly the definition of artificial intelligence, we have to examine what could be considered as AI in philosophy and science.

According to the Oxford computer science explanatory vocabulary: artificial intelligence is that part of information technology which deals with creating programs capable to solve problems requiring human intelligence.[2]

Stuart Russel and Peter Norvig distinguished between four approaches in terms of AI development's philosophical concept:[3]

1) *System thinking as human*: This trend considers such systems AI that model the functions of human mind and cognition.
2) *System acting as human*: This approach is linked to the British mathematician Alan Matheson Turing, who claimed in his famous Turing-test that the criteria and purpose of AI is human-like acting.
3) *Rationally thinking system*: This viewpoint considers the purpose of AI in developing more rational or perfect systems than human cognition.
4) *Rationally acting system*: The approach of modern information technology sciences. It does not aim its purpose to create systems that think or imitate human-like behavior just to behave rational (for example to clearly diagnose diseases, predict natural disasters etc.). In later parts of my essay I will consider this approach as a relevant viewpoint.

According to the definition of John R. Sarle, we can also make difference between *weak* and *strong* AI. Sarle considers weak AI such systems that act as ifthey were intelligent despite that there is no evidence that they have

[1] Alzbeta Krausová, "Legal Regulation of Artificial Beings" *Masaryk University Journal of Law and Technology* 187. (2007): 188.
[2] László Siba, ed., *Oxford számítástechnikai értelmező szótár*. (Novotrade Kiadó, 1989)
[3] Stuart J. Russell – Peter Norvig, *Artificial Intelligence – A Modern Approach (2nd edititon)* (Upper Saddle River, New Jersey: Prentice Hall, 2003), Chapter 26.

individual mind or not. *Strong AI* is considered to be a system that truly thinks and has its own consciousness.[4]

1.2 AI simulations in practice

Softwares work so that they receive signals from the outer world (inputs), then process them using pre-written algorithms, and finally show the outcome in outgoing signals (outputs). As long as human mind can comprehend the given input by which algorithm goes through and what kind of output the result will be, a software does not deserve more attention than a pocket calculator in legal terms. But when speed, complexity, and calculating capacity reach that certain level when the human observer cannot predict the answer to the input, the story makes an interesting turn not just from the technical but from the legal perspective, too: the behavior of machines becomes unpredictable for the human observer; they start to attest human or even superhuman abilities and become weak AIs.[5]

One of the best examples for weak AI and its operating principles are chess-simulators. We already know that such chess software exists that can even beat the best human chess grandmasters. One of them is Deep Blue by IBM, which became famous for its victory over Garry Kasparov in 1997.[6] Kasparov is considered to be one of the (if not the) best (human) chess players in the world. Nonetheless, it cannot be said that Deep Blue understands and relates to chess as Kasparov, even though they both show amazing knowledge of the game. It is nearly impossible to predict the steps of Deep Blue because it is too fast, too effective, too complex, it makes mistakes, too, and even learns from the style of its opponent, just like humans.[7] But when the software defeats the human player, it is not the programmer of the software who wins but Deep Blue itself. The developer of the chess program probably does not have a chance against Kasparov. So we can say that Deep Blue plays intelligently regardless of the fact that it does not realize what it practically does because this circumstance is completely irrelevant of playing the game of chess.[8]

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[4] Balázs Csanád Csáji, "*A mesterséges intelligencia filozófiai problémái*" (thesis, Eötvös Lóránd University of Budapest, 2002), 4.

[5] Lawrence B. Solum, "Legal Personhood for Artificial Intelligences" *North Carolina Law Review* 70 (1992): 1244.

[6] See: http://en.wikipedia.org/wiki/Deep_Blue_versus_Kasparov,_1997,_Game_6 accessed November 05, 2015.

[7] Complete analysis of the matches between Deep Blue and Kasparov: http://www-03.ibm.com/ibm/history/ibm100/us/en/icons/deepblue/ accessed November 05, 2015.

[8] Benjamin D. Allgrove, "Legal Personality for Artificial Intellects: Pragmatic Solution or Science Fiction?" (Master of Philosophy Thesis, University of Oxford, 2004), 5-6.

But the chess software can be considered intelligent in the terms of playing the game only because it cannot do anything else. Nothing exists for the software in the whole world but knowing and applying the rules of chess in the framework of complex calculations. It cannot interpret any other kinds of problems but such that are arising from playing the game.

Chess softwares are considered typically as rationally acting systems. Most of the AI researchers prefer that approach if we focus on the system's capability to solve practical issues rather than mimic human behavior.

2. Relationship of artificial intelligence, liability and law

We should search for the first reference for the 'statutory' regulation of artificially intelligent creatures in science-fiction literature. Isaac Asimov described in 1950 in his book I Robot "The Three Fundamental Laws of Robotics" in the short story Runaround.[9] According to Asimov, the three basic laws which an artificial creature must follow during work are the following:

1. *A robot may not injure a human being or, through inaction, allow a human being to come to harm.*
2. *A robot must obey the orders given to it by human beings, except where such orders would conflict with the First Law.*
3. *A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.*

Asimov supplemented later the three laws with the zeroth law saying: *"A robot may not harm humanity, or, by inaction, allow humanity to come to harm"*. He also completed the original three laws with the prohibition of violating the zeroth law.[10] As we can see, this rule becomes primary to the three original laws, so the robot could even break the first law if its act supports humanity's best interest.

The classic laws of Asimov would seem to easily contradict each other during their practical application. For example what happens when a human orders a robot to come to harm another human being because it serves the interest of the human? Such situation could happen when a robot takes part in medical service and receives orders from the doctor.[11] The author wanted to resolve this contradiction by creating the zeroth law that instructs the robot to keep in mind humanity's best interests primarily while working. We can admit that it requires an excessively developed and complex intelligence and moreover emphatic and moral capability to consider in a given situation what the best interest of humanity is. It is true that these laws remained on

[9] Isaac Asimov, *I, robot* (Kossuth Könyvkiadó, 1966)

[10] Isaac Asimov, *Robots and Empire* (Móra Ferenc Ifjúsági Könyvkiadó, 1993)

[11] F. Patrick Hubbard, " "Do Androids Dream?": Personhood and Intelligent Artifacts" *Temple Law Review* 83. (2010): 85-86.

the level of science-fiction literature so far; however, scientists developing AI in practice do not reject the possibility that some kind of universal limiting factors should be applied to synthetic life forms, too.[12]

But it has not been only the fictional literature of Asimov that has dealt with the problem of possible legal regulation of AI. We can find in legal literature some examples too.

Peter M. Asaro deals with the legal aspects of robotics and artificial intelligence in his essay and starts with the standpoint that we should examine at first that is it possible to apply law to AI-generated problems. In order to model the problems, he examines the regulations of civil liability and tort law first. Asaro comes to the conclusion by examining laws related to robots that the regulations of product liability can be applied to robots as commercial products and to damages caused by them. Later he shifts his viewpoint from robots to software agents, mandate and contractual relations. According to his opinion, it can be concluded that the operator of the software should be liable for the AI software agent's actions.[13]

Giovanni Sartor considers software agents as entities that are capable to represent their operators in legal relations. He originates this from the widespread phenomenon that nowadays many contracts are made with the help of automatic software agents without human intervention or revision. According to Sartor, it is crucial to exclude the applicability of consciousness and attributable performance in connection with AI software. Since AI agents do not have consciousness, their behavior cannot be imputable to them. According to Sartor, the behavior of AI is similar to living organisms because their actions cannot be simply predicted by examining their inner functions due to many random variables. Sartor says that we have to assume also that software agent acts rationally in the predefined behavioral framework (it constitutes a rationally acting system). The operator is liable for the agent's behavior because it was chosen as a tool by him or her to achieve results and these results create rights and obligations for them.[14]

Ryan Calo differs between two behavioral mechanisms of industrial robot operating AI software. AIs that are programmed to act on a mechanical, repetitive way do not have learning or discretion mechanisms, only do what they are set to do (for example they grab and move things irrespectively of the fact that a metal component or human head is in front of them). Calo calls the other, more developed acting form 'shaping' or 'emerging'

[12] Noel Sharkey, *Asimov törvényei már nem elegendőek*, accessed July 15, 2016. https://sg.hu/cikkek/77070/noel-sharkey-asimov-torvenyei-mar-nem-elegendoek

[13] Peter M. Asaro, *Robots and Responsibility from a Legal Perspective*, (Sweden: HUMLab, Umea University, 2007)

[14] Giovanni Sartor, "Cognitive Automata and the Law." *Artificial Intelligence and Law*, Vol. 17, EUI Working Papers Law No. 2006/35. pp. 19-22.

behavior. It originates from programmed command but is not predetermined, instead it reacts to the circumstances and learns on the go. According to Calo, in this case, the possibility comes to surface that special liability rules could be applied to the acts of the software due to less predictable action.[15]

3. Artificial intelligence as legal entity

We cited in the previous chapters the concepts and theories of science and philosophy to define what AI is. There is no doubt that the behavior of AI reaches a critical point when interaction takes place between the software and humans or objects. This happens most often when the AI software and the controlled hardware (a computer or a robot) changes somehow the physical world, for example helps to assemble a car in a factory. In such cases the physical manifestation of AI occurs, the software 'exits' from cyberspace. The question is that who should bear the legal responsibility for the actions of synthetic beings? Before reviewing the concrete problems of liability, let us examine current legal regulations of artificial beings and their critics.

3.1 Artificial intelligence as software

We have to keep in mind at first instance when classifying AIs by current legal regulation that they are computer programs; software. In scientific literature parallel definitions of the legal classification and concept of software can be found. From the information technology perspective software means computer programs, processes and possibly documents and data related to operation of the information system. From another point of view software consists of algorithms, its computerized representation and programs. Software can be applied only to solve tasks if it leads to the step-by-step execution of certain operations. An algorithm is a predefined line of steps which necessary is to perform a certain task. The algorithm receives certain value or values per input and produces certain value or values in return as output. From the computer engineering point of view a common software concept has not been developed yet, but it is the standpoint of the majority that software consists of at least two major parts: the computer program and the documentation.[16]

Hungarian law does not specify the concept of software either, however, the Hungarian Act on Copyright (hereinafter referred as: Szjt.) highlights

[15] Ryan Calo, "Robotics and the Lessons of Cyberlaw" (February 28, 2014), *California Law Review* Vol. 103, 2015; University of Washington School of Law, Research Paper No. 2014-08. pp. 119-135.

[16] Ádám Auer and Tekla Papp, "*Rövid áttekintés a software fogalmáról a magyar szerzői jogban*" *Jogelméleti szemle* 2 (2013): 10-17.

that software is protected by copyright as a creative intellectual product (according to the Act: the computer program and the documentation enclosed to software).[17]

In Hungarian legal literature authors often refer to the Berne Convention for the Protection of Literary and Artistic Works, the TRIPS Convention, the WIPO Copyright Treaty and the EU Directive 2009/24/EC on the legal protection of computer programs.[18] The authors mostly agree on that software should be looked at under copyright regime as literary works.[19]

However, liability for AI behavior is not mainly a problem of copyright law. This concept will be presented in detail in later parts of the essay.

3.2 Attempts to define the legal concept of AI

Similarly to the legal concept of software, approaches to define the legal concept of AI are also barely found. There is at least one example in the USA, New Jersey legislature. A bill was accepted in 2014, which contains special regulations for driverless cars and tries to define the concept of artificial intelligence.[20] According to the bill: *"artificial intelligence means the use of computers and related equipment to enable a machine to duplicate or mimic the behavior of human beings."*

In my opinion, this attempt cannot be treated as a general definition for AI. The definition considers AI only softwares which are written to mimic or duplicate the behavior of humans and only that are operating some kind of hardware environment (e.g. a robot). In earlier parts of the essay it was repeatedly underlined that the purpose of AI development is in most cases not to mimic human behavior but to build rationally acting systems. Moreover, software developers write AI not only for machine or robot control but for totally different purposes, too.

Hungarian (and EU) law does not differ between software in terms of independent decision making mechanisms and does not define the definition of AI, either. This is not necessarily a problem, because emerging problems about the legal issues of AI can be solved in most situations as it will be presented in later parts of the essay. Nevertheless, in a possible future, special AI regulation of the legislator will have to create the definition of AI in order to appoint a substantive scope.

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[17] See: Hungarian Act on Copyright (Act LXXVII of 1999.) Article 1. Section (2) Point c)

[18] Mihály Petkó, "A számítógépes programalkotások hatályos jogi védelme a nemzetközi jogalkotás tükrében" *Jogtudományi Közlöny* 1 (2002): 53-54.

[19] Auer – Papp, "Rövid áttekintés," 10-17.

[20] State of New Jersey 216th Legislature, Senate, No. 734. Online: ftp://www.njleg.state.nj.us/20142015/S1000/734_I1.HTM accessed November 01, 2015.

3.3 De lege ferenda standpoint: AI as legal entity

The concept of applying legal personality to artificial intelligence washas been a heavily discussed topic in scientific literature for a while. A paper published in 2007 by Francisco Andrade and co-authors points out the problem that the development of information technology, telecommunications and artificial intelligence recently created a new way of making contracts and expressing contract will. In the corporate sector, the intelligent electronic agents are increasingly presented. These are softwares that are capable to explain activities in the name of their principals and they are appropriate to have legal effect without any direct human control.[21] We can use the word 'agent' for these kinds of entities. This word stems from the Latin phrase 'agere', meaning 'to act'.

According to their general definition, we call agents such artificial creatures that can be useful because of their programmable nature in simulations, modelling or studying other regulatory mechanisms. The created agent or 'body' can be independent (autonomous agent) and be put into an environment. Thereby the creature will be manifested through its reactions to the stimulating effects of the given environment. The body and the environment can be the result of computer simulation or can be a robot in a real environment which is controlled by a network. The relevant feature of this method is that the agent does not only process the incoming signals but can react to the surrounding environment because it has a 'body'. Moreover, it constantly perceives the results of its operation and this will influence its further behavior. A constant feedback-system can be built up between the agent and the environment as by living organisms. So agents can be characterized as scientific-intellectual results mimicking a life phenomenon. An electronic agent is software that performs a specific task in the name of its principal without human intervention and communicates with other agents, processes and its own environment, too.[22]

The definition of electronic agent is defined on statutory level by the American Uniform Electronic Transactions Act's (UETA) section 2 subsection (6): *[an agent is] "a computer program or an electronic or other automated means used independently to initiate an action or respond to electronic records or performances in whole or in part, without review or action by an individual."*[23]

[21] Francisco Andrade and Paulo Novais and José Machado and José Neves, "Contracting Agents: Legal Personality and Representation" *Artificial Intelligence and Law* 15 (2007): 357.

[22] Stuart and Norvig, *Artificial Intelligence*, Chapters 2.1 and 27.1-2.

[23] Sabrina Kis, "Contracts and Electronic Agents: When Commercial Pragmatism and Legal Theories Diverge" (LLM Theses and Essays, Georgia Law, 2004), 9-10.

Based on the above we can say that electronic agents are independently acting entities on behalf of their principals and they are serving such wider or narrower goals that are pre-defined by humans.

Is it possible under the doctrines of civil law to grant legal personhood to independently acting artificial entities? Furthermore, for what reasons do we have to do so and under what kind of framework could this be possible?

3.4 Boundaries to treat AI as independent legal entity

Current legislation does not consider AI as independent legal entity. Nevertheless, electronic software agents have rich knowledge base, furthermore, their complex configuration options allow them to plan tasks for themselves, react, learn, communicate and work together with other AI software. They do not have own existence, but are able to attend and perform tasks independently in certain situations. According to Allen and Widdison, computer programs reached that level today that they are able to act not just automatically but independently. The commercial role of software is shifting increasingly from a passive, automatic assistant to an active independent participant.[24] According to Fisher, it could happen in the world of electronic transactions that one of the parties does not use another human person as trustee but an electronic agent operated by AI. Because the agent makes specific decisions independently from its principal, it has to be considered just as a flesh and blood human would represent the principal.[25] It is important to mention that the ideal solution in such special situations is when both of the contracting parties agree to be represented by electronic agents. The software has to meet a minimum level to classify it as intelligent agent which is the criteria of weak AI.[26]

It can be established about electronic agents that they differ from the classic concept of legal persons (for example foundations, companies) in the sense, too, that they do not need a natural person as representative in legal relationships. A legal person always needs a delegate natural person who can make disclaimers in the name of it. Electronic agents do not require someone who represents them, but on the contrary, they represent a third person through their individual artificially intelligent decisions. To consider an AI as legal person, it should have separated property too, because according to civil law, the concept of 'person' has relevance mainly as an individual entity participating in the traffic of property elements. We cannot treat AI as legal entity and the revision of this standpoint does not seem to have necessity since they do not bear own consciousness nor have independent property.

[24] Andrade et al., "Contracting Agents," 359.
[25] Ibid.
[26] Kis, "Contracts and Electronic Agents," 12.

3.5 AI as representative: Solution of the UNCITRAL Model Law on Electronic Commerce

Nonetheless, it can be said at least that AI can make a valid contract or do other legally binding declarations through its individual decisions but these are binding the represented person. This is consistent with the UNCITRAL Model Law on Electronic Commerce saying: *"As between the originator and the addressee, a data message is deemed to be that of the originator if it was sent by an information system programmed by, or on behalf of, the originator to operate automatically."* So electronically sent contracting statements generated automatically by information systems have to be considered as they are originated by the legal entity that operates the system.[27] The so called 'automatic contract statement' should not to be confused with representation. Representation means that in the name of a legal entity – a natural or legal person – some other person makes legally binding statement so that the disclaimer's legal effects will bind the represented one (the principal). According to the Hungarian Civil Code (hereinafter referred as: Ptk.) a representative should be person only, not an agent. This is based under the assumption that in certain cases the representative could have independent civil liability, for example when it acts on contrary the principal's interest. When there is a conflict of interest the principal can challenge the representative's disclaimer which can lead to invalidity of the contract.[28]

It can be concluded that according to Civil Law, AI agents cannot be treated as legal entity or representative despite the fact that one can make a valid disclaimer with them. In my opinion it would be good to implement the definition of 'automatic contract statement' into Hungarian law in order to clarify liability questions.

4. Liability for damages caused by artificial intelligence in contractual relations

What happens according to the general rules of civil liability if an AI entity causes damage in accordance with its operation? As we saw in the previous chapters, AI is software according to the current legal regulations. So first of all we have to examine who should bear responsibility for the damages caused by software during its operation.

[27] Uncitral Model Law on Electronic Commerce 13. § (2) b)

[28] Ferenc Petrik, ed., *Polgári jog. Kommentár a gyakorlat számára (negyedik kiadás)* (Budapest: HVG Orac, 2014) 25-29.

4.1 Opinions in legal literature

There are only a few standpoints in scientific literature about the problem. Giovanni Sartor examines in one of his essays the issue of damages caused by electronic agents. At first, he takes into consideration that we can count on more legal entities from the viewpoint of legal responsibility. According to Sartor, parts of the software agent could have separated legal fate. If the agent contains copyright protected software (as in most situations), the author could bear liability for programming mistakes. If the agent contains some kind of database, then the producer of the database could bear the liability for database mistakes. If the agent processes personal data, – from a data protection point of view – the data controller is responsible for legitimate data processing. If the agent is being operated by a certain user for own purposes, the user is liable for its operations.[29]

According to Sartor, since the usage of the software agent could have such aspects on which the given legal entity cannot exercise control, therefore the operator should not be held liable for such damages. For example: the user should not be liable for damages caused by AI software when the wrongful act originates from the programming mistakes of the software and the user is not allowed to access the source code or either to decrypt it.

4.2 Liability of the user

By defining the liability of the user or operator of the AI software we should take into consideration first that computer programs are copyrighted works. The Hungarian Act on Copyright (Szjt.) defines the legal rules for selling and using computer programs as intellectual property. The act says that the author can grant the right to use the intellectual creation in a so-called end-user agreement or license agreement and the user should pay a fee in return unless the parties have not agreed otherwise (free-license). The content of the license agreement can be freely established by the contracting parties. The parties can differ from the provisions with mutual consent unless it is not prohibited by the law.[30]

When buying and starting to use a software, the user must typically accept an end user license agreement which concretizes the terms of software use. The user typically does not have an option to modify the terms of the license agreement but only has possibility to accept or reject contractual conditions. Having regard to this, we should search for the basis of liability among the regulations of liability for damages in contractual

[29] Sartor, "Cognitive Automata and the Law," 19-22.
[30] Szjt. Article 42. Sections (1)-(2)

relations, because usually a software using contract will be bound between the user and the software developer.

Software developers tend to specify in end user contract terms that they should not be held liable for damages that were caused to the user or to third party in context of software use. The user should bear liability for these damages.[31] These conditions are called 'limited liability' doctrine according to an English legal expression.

4.3 The case of lack of conformity

We have to distinguish from user liability the case when the software has been issued deficient and damages occurred on the side of the user due to the malfunction of the software. The Civil Code allows through the legal institution of lack of conformity to challenge the service provider (here: the software developer) for carrying out the contract inaccurately, in this case: for issuing a malfunctioning software. Lack of conformity is a case of breach of contract.

According to the Hungarian Civil Code section 6:157 subsection (1): *"Lack of conformity means when the obligor's performance at the delivery date is not in compliance with the quality requirements laid down in the contract or stipulated by law. The obligor is not liable for any lack of conformity if, at the time of the conclusion of the contract, the obligee knew or should have known the lack of conformity."*

This definition above is normative by judging such contractual relationships when this type of breach may come to surface having regard to the nature of contract, for example by user obligations.[32] Software use agreements are typical user obligations so enforcing rights originating from lack of conformity can cover the malfunction of software delivered by contract. According to the Civil Code's general provisions in section 6:123 subsection (1):

"Performance shall be in conformity with the contract, that is to say, services, at the time when supplied: shall be suitable for any particular purpose for which the obligee requires them and which the obligee made known to the obligor at the time the contract was concluded; shall be suitable for their intended purpose and in conformity with other services of the like; shall be of a quality and performance that are normal in services of the same type and that the obligee can reasonably expect, given the nature of the services and taking into account any public statements on the specific characteristics of the services made about them by the obligor or – if produced by a person other than the obligor – the producer and their

[31] Dávid Simon, "A szoftverrel kapcsolatos egyes felelősségi kérdések" *Infokommunikáció és jog,* 3 (2005): 12.
[32] Petrik, *Polgár jog,* 348-349.

representative; shall comply with the description given by the obligor and possess the qualities of the services the obligor presented to the obligee as a sample or model; and shall be in conformity with the quality requirements defined by law."

Lack of conformity can create a claim for damage compensation on the side of the user. According to this, the obligee is entitled to damages for loss caused by lack of conformity for which the obligor is liable, unless the lack of conformity is excused (right for damages).[33] The obligor is not liable when lack of conformity has been exculpated.[34] This could happen when the obligor is able to prove that the damage occurred in consequence of unforeseen circumstances beyond his control, and there had been no reasonable cause to take action for preventing or mitigating the damage.[35]

If we apply the Hungarian Civil Code's regulations for legal relationship between the developer and user of the AI software, then we can conclude that the user can claim for compensation for damages caused by software malfunction by the issuer or developer of the software product.[36]

Though it is important to mention that software developers almost always issue specific corrections and repairs to their program in case errors occur during usage. They can learn about these errors from their own perception or from user feedbacks. Malfunctioning AI software cannot count for high interest on the market so issuing these corrections is in connection with the developer's purposes too.

5. Artificial intelligences in virtual realities

By the beginning of the 21st century computing and internet technology have reached the stage of development that software can model whole realistic virtual environments even if we speak about the digitalization of the physical world surrounding us or worlds created by imagination. At the dawn of our century programming technique is sufficiently advanced so that it can open the created virtual worlds to public. This development creates environments in which hundreds of thousands users can interact in real time directly and shape the digital environment surrounding them.

[33] Act V of 2013 on the Hungarian Civil Code (Ptk.) Article 6:174. Section (1)

[34] According to Ptk. Article 6:177 Section (2): *„The obligor shall be excused of liability if lack of conformity has its origin:*
a) in any defect in the materials supplied by the obligee;
b) in any discrepancy or error in the data supplied by the obligee; or
c) in any impracticable or unreasonable instruction given by the obligee;
provided that the obligee has been informed of these circumstances."

[35] Ptk. Article 6:142.

[36] For example about Y2K software mistakes see: Cégvezetés, *A számítástechnikai cégek felelőssége*.

These kinds of virtual worlds mostly appear in the form of online games where the players can interact with each other through a personified character (avatar) controlled by them. The players can shape together the story of the world through this interactivity. This form of entertainment is increasingly popular nowadays, especially among the younger generations who raised the level of reality and the environment surrounding humanity through these virtual realms to formerly unknown heights.

5.1 Intelligent virtual beings

Virtual worlds can be such graphical spaces, too, that are populated by certain virtual 'life forms' and human users can interact with them. In the previous chapters we examined problems in connection with artificially intelligent beings. As we saw they form a well demarcated circle among computer software. The concept of virtual being is somehow broader; we can divide them into two bigger groups:

1. The first group consists of virtual beings that are being controlled by artificial intelligence.
2. To the second group belong such beings that are not operated by individual decision making mechanism and their behavior happens completely by human interaction.

A good example for the first group can be a computer-controlled virtual opponent of a multiplayer online role-playing game (MMORPG)[37] on which the players' avatars task is to overcome. To the second group belong characters selling virtual items or offering quests. Members of both groups are called non-player characters (NPC) in online games.[38]

These virtual characters are operating similarly like independent AI software with the difference that they are part of a bigger program so only persons participating in virtual reality can meet them.

Most online games use the server-client based system to operate. The software that replicates and maintains the world runs constantly on the central server and the players can connect to it through clients installed on

[37] Massively Multiplayer Online Role-Playing Game is a sub-genre of computer games in which many players can contact each other in a virtual world. The name refers to the fact that several thousands, even millions of players are playing it at the same time. Players are developing skills, fighting monsters alone or in a group, buy and sell virtual goods and communicate. The term MMORPG was invented by Richard Garriott, who was the main developer of Ultima Online, the game, which made the genre popular in 1997. See: http://en.wikipedia.org/wiki/MMORPG accessed November 06, 2015.

[38] Cyril Brom and Martin Cerny and Tomas Plch and Matej Marko and Petr Ondracek, *"Smart Areas: A Modular Approach to Simulation of Daily Life in an Open World Video Game"* (Proceedings of 6th International Conference on Agents and Artificial Intelligence, ICAART 2014), 1-2.

their personal computers. The clients are usually added up to several gigabytes but such MMORPGs are spreading increasingly that are using 'thin clients' like web browsers.[39] Massive amount of information are being stored on the central servers that are essential to run the program flawlessly. These can be for example the scripts responsible to control the behavior of virtual opponents.[40] The developers of online games are responsible for maintaining the central server, so they can be considered as operators.

We have to take these software-parts into consideration and examine their working mechanisms from a legal perspective because virtual world simulations containing them are operated not by end-users but software developing companies.

Through the analysis of the current legal regulations we have managed to assess that on the first instance the operator of the software has to bear liability for the behavior of AI. But in the server-client based system of virtual environments the user (player) and the operator (developer) is sharply differentiated from each other. I would like to introduce the problem of legal liability for the behavior of virtual reality's intelligent software components by the following case study.

5.2 The 'Corrupted Blood' incident

The 'Corrupted Blood' incident was a virtual epidemic originated from a videogame program error that swept through the online fantasy world of World of Warcraft (WoW) on 13th September 2005. The disease had reared its head when Blizzard Entertainment (the software developer company) added on this day patch number 1.7.0 to the game, which included the brand new labyrinth *Zul'Gurub* and its final boss, a dragon called *Hakkar*. The monster had a spell called Corrupted Blood among its attacks, which was a periodically damaging disease (debuff). The effect could spread from one player to another causing the lower level player to die in a few seconds and higher level players could even only survive with constant healing. Normally the magic effect had to elapse when the adventuring company of players left the labyrinth or defeated the main boss. The effect elapsed from the characters but because of the programming error in the AI script controlling Hakkar, the pets controlled by some of the players (characters of the hunter and warlock classes could tame or summon pets) carried the disease on

[39] Wisegeek.com, *What is a MMORPG*. http://www.wisegeek.com/what-is-a-mmorpg.htm accessed November 03, 2015.

[40] The main concept of scripts was developed in the earlier history of AI programming in the mid 1970s. Scripts are such interpreted programs that are responsible to automate a partial task in a more complex software. See: Daniel Crevier, *AI: The Tumultuous Search for Artificial Intelligence* (New York: Basic Books, 1993), 175.

outside the dungeon in the open game world where it spread to other players and NPCs too. Lower level characters died nearly instantly and the epidemic caused others a lot of annoyance, too. It is interesting that the spell did not affect the health of NPCs but they could spread the disease as passive carrying medium. Eyewitness players described their experiences as the cities of the world had been turned into cemeteries in a flash. Luckily, death is not permanent in the world of WoW because avatars can be resurrected using specific magical spells, however, the virtual epidemic was really bothering to lot of players. Most of them just simply ended gaming. The problem was solved by the developer in the way of issuing a quick fix to the game and Hakkar's script.[41]

Examining legal liability, it is worthy of note that scripted life forms in virtual worlds gain information about their behavior from the server maintaining the environment. The central server is maintained by the developer for the players. In this case the operator of AI will be not the user but the developer itself. Taking into consideration the conclusions of this study as far, the developer as the operator of the virtual world software should be responsible for the operation of the AI.

Practice shows us that possible software errors are being constantly corrected by software developers because it is a crucial step in keeping players, so they are responsible for its operation in an unwritten form.

However, if we examine the liability for damages from proper software use and not from malfunction, we can make the conclusion that the user has to bear liability. This is in consistence with end user license agreements in most cases. Developers tend to exclude liability for damages in connection with proper software use (for example the player destroys his virtual items intentionally). This is specific by other 'traditional' software, too. So the final conclusion is that users should be liable for damages occurred if the software run without inner malfunction or error.

However, if users suffer damages due to incorrect programming of the AI, or instability of the hosting servers (and not in connection with normal usage), they can claim compensation from the software developer according to lack of conformity. It is important to mention that in most cases a virtual world simulation's programming malfunctions – either in connection with AI or with simpler functions – do not affect user's virtual property, but only cause other inconvenience as it could be seen by 'the corrupted blood incident'. If software errors cause damages in virtual property of users, they can even claim compensation for damages from the software developer and

[41] About the Corrupted Blood Incident on WowWiki:
http://www.wowwiki.com/Corrupted_Blood accessed November 03, 2015.

operator of game servers or to restore original state (for example by restoring lost virtual items).[42]

6. Conclusion

Do you remember the question that caused the Creators to attack us, Tali'Zorah?: "Does this unit have a soul?"

Legion (Mass Effect 3)[43]

In my essay I tried to answer the question who should bear liability for AI's behavior and damages caused in connection. According to the current state of science, artificial intelligences are on the level of weak AI so they do not give evidence of such self-determination that can be considered as conscious life form. Examining the current legal doctrines in force it can be established that there is no special regulation to AI so it can be deduced from the general norms of Civil Law. This solution is, however, contradictory in many cases especially when it is used to solve such practical questions like representation by electronic agents. The ideal solution would be the modification of current legal norms in a way by implementing electronic contractual statements based on the model of UNCITRAL Model Law on Electronic Commerce. This could help to interpret 'representation' through software clearly in practice.

The rules for software liability can be deducted from Civil Law, but our topic's special nature required a deeper analysis of the problem.

Finally, it would be fortunate to shape the legal background so that it would be suitable in such special situations without any troubles. Legislation has to reflect to new social and scientific phenomena time after time and this need happens very often along the development of emerging technology.

[42] Virtual property: In many computer based virtual world simulators users can acquire or create virtual items which can have value in real world currencies. Some online virtual world softwares like Second Life have even a special service to change in-game money to real currency.

[43] In the third part of the space epic 'Mass Effect', the member of the collective artificial intelligence operated mechanic 'geth' race, Legion asks this question from Tali'Zorah, who represents the inventor 'quarian' race. The story tells that one of the most serious crimes in the galaxy is AI-developing because the mechanic 'geths' have become conscious and rebelled against their own creators. Bioware: *Mass Effect 3* (Electronic Arts, 2012)

The prosecutor's position in some European countries

HERKE, CSONGOR

ABSTRACT**:** *The main rules concerning the legal status of the public prosecutor's office in Hungary. The tasks and operations (devolution and substitution rights, the right to give instructions) of the German public prosecutor's office. The structure of the British Crown Prosecution Service and functions of the Crown prosecutors. The functions and structure of the French, Italian and Austrian public prosecutor's office.*

KEYWORDS**:** *public prosecutor's office, prosecutor, comparative law*

1. The organizational structure of the prosecution service

1.1 Hungary

The prosecution service[1] – parallel to the courts – has a four-tier organizational structure, being divided into local, county, territorial and national bodies.[2] Accordingly, prosecutors carry out their activity at District and District-Level Prosecutor's Offices (District Prosecutor's Offices of Budapest, Investigating Prosecutor's Offices, Prosecutor's Office of Budapest for Public Interest Protection), Chief Prosecution Offices (County Chief Prosecution Offices and the Municipal Central Investigating Chief Prosecution Office of Budapest), Appellate Chief Prosecution Offices (Budapest, Debrecen, Győr, Pécs and Szeged) and the Office of the Prosecutor General. Mention should also be made of the National Institute of Criminology, which is a special organization linked to the prosecution service. The competence and territorial jurisdiction of the individual prosecutor's offices follow the pattern of the corresponding courts; but if

[1] This paper examines only the criminal procedural aspects of the prosecution, it does not deal with other issues (e.g. Constitutional law, administrative law, civil law). The present scientific contribution is dedicated to the 650th anniversary of the foundation of the University of Pécs, Hungary.

[2] Zoltán Hautzinger and Csongor Herke and Bence Mészáros and Mariann Nagy, *Einführung in das ungarische Strafverfahrensrecht* (Passau: Schenk Verlag, 2008), 176.

instructed by the Prosecutor General, the Appellate Chief Prosecutor or the Chief Prosecutor, the prosecutor may also proceed in matters that would not normally fall within his competence or jurisdiction. In the event of a conflict of competence or jurisdiction between prosecutor's offices, the acting prosecutor's office shall be designated by the superior prosecutor.[3]

1.2 Germany

The public prosecution office is organized in parallel to the courts:

- National (by the BGH): Federal Public Prosecutor (Generalbundesanwalt) and the Federal Prosecutors (Bundesanwälte);
- Territorial (by the OLG): Public Prosecutor General and the Prosecutors (Staatsanwälte);
- County (by the LG): Chief Senior Public Prosecutor and the Prosecutors (Staatsanwälte);
- Local (by the AG): Prosecutors (Staatsanwälte) and Public Prosecutors (Amtsanwälte).[4.]

Its organization and competence is based on §§ 141-142 of the GVG.[5] The territorial jurisdiction of the public prosecution office shall be determined by the jurisdiction of the court at which the public prosecution office has been set up. (GVG § 143. para I.)[6].

1.3 England and Wales

The Crown Prosecution Service (CPS) is headed by the Director of Public Prosecutions (DPP), who is appointed by and is under the "supervision" of the Attorney General.[7]

Crown prosecutors, who work as the DPP's subordinates, do not have any special status – similarly to the situation in many other countries.[8] Based on the law, they must be qualified barristers or solicitors (lawyers), but as a

[3] Csongor Herke and Csaba Fenyvesi and Flórián Tremmel, *A büntető eljárásjog elmélete*, (Budapest-Pécs: Dialóg Campus Kiadó, 2012), 382.
[4] Heinrich Henkel, *Strafverfahrensrecht* (Stuttgart: 1968)
[5] Klaus Haller and Klaus Conzen, *Das Strafverfahren* (Heidelberg: Neckar, 2011)
[6] Heiko Hartmut Lesch, *Strafprozeßrecht*, (Neuwied:Kriftel, 2001).
Csongor Herke, *A német és az angol büntetőeljárás alapintézményei*, (Pécs: PTE ÁJK, 2011), 126.
[7] Mireille Delmas-Marty and John Rason Spencer, ed., *European criminal procedures* (Cambridge: 2004)
[8] John Rason Spencer, *The case for a code of criminal procedure*, (London: 2000).

result of their appointment they become public servants and they do not enjoy the security (guarantee) of a permanent official position.[9]

1.4 France

The criminal court cannot deliver a judgment in a criminal case if the prosecutor's representative is not present.[10] Which prosecutor acts in a case varies according to the court.[11]

- Before the tribunal de police, in the case of a level 1-4 contravention the prosecution is represented by a police officer; while in the case of a level 5 contravention, the prosecution is represented by the competent procureur de la République (PR) of the tribunal de grande instance or one of his deputies (substitut).[12]
- Before the court acting in a délit case (tribunal correctionnel), the prosecution is represented by a deputy of the PR (substituts).
- Before the court of appeal the prosecution consists of the Procureur général (PG), his/her deputies and assistants (substitut).[13]
- Before the cour d'assises no special representation of the prosecution is required, it is within the discretion of the courts in whose area the hearing is being held (cours d'appel or tribunaux de grande instance).[14]
- Before the Cour de cassation, the prosecution comprises a PG, a premier avocat général (PAG) and 19 avocats généraux (AG).[15]

1.5 Italy

In Italy there are prosecutor's offices operating at all first instance courts (panel court or sole judge), all appellate courts and the Corte di cassazione.[16] Although prosecutors are independent in their institutional position, decreto legislativo No 106 of 2006 has introduced the earlier unknown principle of hierarchy. In accordance with this, the public prosecution of charges – in

[9] Csongor Herke, A német és az angol büntetőeljárás alapintézményei (Pécs: PTE ÁJK, 2011), 126.
[10] Serge Guinchard and Jacques Buisson, *Procédure pénale*, (Párizs: 2000).
[11] Ilona Lévai, "Büntetőeljárás és ügyészség – a „francia modell" magyar aspektusból", *Kriminológiai és kriminalisztikai tanulmányok* 31. (1994): 43-105.
[12] Denis Salas, *Du procès pénal* (Párizs: 1992).
[13] Jean Pradel, *Procédure pénale* (Párizs: 2000).
[14] Jean Pradel, ed., *Code de procédure pénale*, (Párizs: 1990).
[15] Csongor Herke, *A francia és az olasz büntetőeljárás alapintézményei*, (Pécs: PTE ÁJK, 2013), 116.
[16] John Hatchard and Richard Vogler and Barbara Huber, *Comparative criminal procedure* (London: 1996).

conformity with the German system – is in the hands of the first official of the prosecutor's office, who may appoint a deputy in his absence or where he is prevented from attendance. Moreover, he may transfer competence over various types of criminal procedures to one or more prosecutors belonging to one specific area. It is also this first official of the prosecutor's office that may define the general criteria concerning when his subordinate prosecutors may resort to the activity of the polizia giudiziaria.[17]

The hierarchical structure of the Italian prosecution service is also manifested in the fact that where the prosecutor wishes to initiate certain coercive measures in the procedure – for example, pre-trial detention – it is necessary to obtain the written permission of the first official of the prosecutor's office.

Article 358 of the Italian Code of Criminal Procedure imposes on the prosecutor the obligation to conduct an impartial process. Pursuant to Article 52 of the CPP, where it is justified by important reasons, the prosecutor is "entitled" not to act in a case, and if he fails to meet this obligation, he may be disciplined by the Consiglio superiore della magistratura for misconduct.

In Italy there are the following prosecutor's offices:

- Corte di cassazione: Chief General Prosecutor (Procuratore Generale presso la Corte di Cassazione);
- Appellate courts: Chief Prosecutor (Procuratore Generale);
- First instance courts (panel court or sole judge): Chief Prosecutor (Procuratore Capo), deputy prosecutors (procuratori aggiunti), assistant prosecutors (sostituti procuratori).[18]

1.6 Austria

The Austrian prosecution system (in line with the court system) comprises three levels:

- public prosecutor's offices attached to the LG (Staatsanwaltschaft),
- senior public prosecutor's offices attached to the OLG (Oberstaatsanwaltschaft) and
- the Procurator General's Office attached to the OGH (Generalprokuratur).

2. The special prosecution's offices

2.1 Hungary

Mention should also be made of the National Institute of Criminology, which is a special organization linked to the prosecution service. The

[17] Giuseppe Riccio and Giorgio Spangher, *La Procedura Penale* (Napoli: 2002).
[18] Herke, *A francia és az olasz büntetőeljárás alapintézményei*, 116.

National Institute of Criminology is in charge of the research of criminal activity and the development of the theory and practice of criminology, forensic science and criminal law sciences (Act on the Prosecution Service, § 10).

In some cases investigation may only be carried out by investigating prosecutors or military investigating prosecutors.

2.2 England and Wales

Although legally, the CPS takes over the prosecution of all charges initiated by the police, there are a number of other public service government agencies that may bring charges themselves and are also entitled to carry out investigation (namely, HM Customs and Excise, Inland Revenue, the Department of Social Security, and the Serious Fraud Office).[19]

2.3 Italy

In the interests of the fight against organized crime, special law enforcement agencies have been set up in Italy: the procura distrettuale antimafia at the regional level and the procura nazionale antimafia at the national level. This does not mean the setting up of a new prosecution service, but rather the assignment of competences. Prosecutor's offices operating at appellate courts may proceed in cases of crimes related to the mafia and terrorism. Therefore investigation against the mafia is conducted by the 26 prosecutor's offices attached to appellate courts, and not by the more than 160 prosecutor's offices attached to first instance courts (pubblico ministero).[20]

2.4 Austria

A special prosecutor's office is the Central Public Prosecution Service for Combating Economic Crime and Corruption having its seat in Vienna (Zentrale Staatsanwaltschaft zur Verfolgung von Wirtschaftssachen und Korruption, Economic Crime and Corruption Prosecution Service, WKStA). The staff of prosecutor's offices is made up of prosecutors and employees of the prosecutor's office.

The above organization of the prosecution service also means a relation of subordination (the Economic Crime and Corruption Prosecution Service is

[19] Nicola Padfield, *Text and materials on the criminal justice process* (London: 2000).

[20] Manfred Maiwald, *Einführung in das italienische Strafrecht und Strafprozeßrecht* (Frankfurt: Peter Lang, 2009).

subordinated to the Senior Prosecutor's Office of Vienna). The Procurator General is subordinated to the Minister of Justice, who exercises the right to give instructions and the right of supervision in respect of all public prosecutors.

Public prosecutors may proceed in any case with the proviso that in matters falling within the competence of BG (district courts) it is usually district lawyers who proceed. As for jurisdiction (similarly to the jurisdiction of the courts), it is primarily based on the place where the crime was committed. If the place of perpetration is unknown or located abroad, then jurisdiction may also be based on the place of occurrence of the result, the domicile or residence of the accused etc. The Economic Crime and Corruption Prosecution Service proceeds in criminal offences specified in StPO § 20a (1) over the whole territory of the country.

3. The relationship between the Prosecutor's Office and the Ministry of Justice

3.1 Hungary

In Hungary the Prosecutor's Office is independent of the Ministry of Justice. The Minister of Justice does not have the right to give instructions.

3.2 Germany

The operation of the public prosecution office is determined by its monocratic and hierarchic organization:[21]

a) All public prosecutors represent the law: if the public prosecution office consists of several officials, the public prosecutor (Staatsanwalt) assigned to the highest-ranking official shall act as his deputy; he shall, when he acts in his stead, be authorised to perform all his official tasks without proof of a special commission. (GVG, § 144).[22]
b) The right of devolution and of substitution: it also follows from the monocratic organization of the public prosecution office that no public prosecutor has definitive jurisdiction over a given criminal case; jurisdiction may be transferred rather arbitrarily within the public prosecution office.[23]

[21] Werner Beulke, *Strafprozessrecht* (Heidelberg-München-Landsberg-Frechen-Hamburg: 2010).
[22] Friedrich Geerds, *Übungen im Strafprozeßrecht* (Berlin: 1989)
[23] Otfried Ranft, *Strafprozeßrecht* (Stuttgart-München-Hannover-Berlin-Weimar-Dresden: 2005).

On the basis of the right of devolution, the first officials of the public prosecution office at the Higher Regional Courts (Public Prosecutor General) and the Regional Courts (Chief Senior Public Prosecutor) shall be entitled to take over all the official tasks of the public prosecution office at all the courts in their district (GVG 145, § I. 1.). The Minister of Justice has no right of devolution, not being an organization in the nature of a prosecution office.[24]

On the basis of the right of substitution, the first officials of the public prosecution office at the Higher Regional Courts and the Regional Courts shall be entitled to commission an official other than the initially competent official to perform the official tasks of the public prosecution service at all courts in their district (GVG 145, § I. 2.). Moreover, they may also commission another public prosecution office to perform these tasks. (BGH NStZ 1998, 309). The Minister of Justice also has this right of substitution.[25]

c) Right to give instructions: the officials of the public prosecution office must comply with the official instructions of their superiors (GVG §146). The answer to the question as to which superior is entitled to issue instructions may be deduced from the guidance contained in § 147 of the GVG relating to the right of direction and supervision. Pursuant to this, the right to give instructions lies with:[26]

▪ the Federal Minister of Justice in respect of the Federal Prosecutor General and the federal prosecutors, GVG § 147 para. 1 ▪ the *Land* Minister of Justice in respect of all the officials of the public prosecution office of the *Land* concerned, GVG § 147 para. 2	so-called external right to give instructions (GVG § 147 paras. 1 and 2)
▪ the Federal Prosecutor General in respect of the federal prosecutors, on the analogy of GVG § 147 para. 3 ▪ The Public Prosecutor General of the Land in respect of other prosecutors operating at the Higher Regional Court (OLG) and subordinated prosecutors operating at the Regional and Local Courts (LG, AG), GVG §147 para. 3 ▪ The Chief Senior Public Prosecutor of the	so-called internal right to give instructions (GVG § 147 para. 3)

[24] Bernd Weiland, *Einführung in die Praxis des Strafverfahrens* (München: 1996).
[25] Lutz Meyer-Grossner and Jürgen Cierniak and Otto Schwarz, *Strafprozessordnung* (München: 2011).
[26] Werner Beulke, *Strafprozessrecht* (Heidelberg-München-Landsberg-Frechen-Hamburg: 2010).

public prosecution office at the Regional Court in respect of all officials of the public prosecution office of the given court's district, GVG § 147 para. 3	

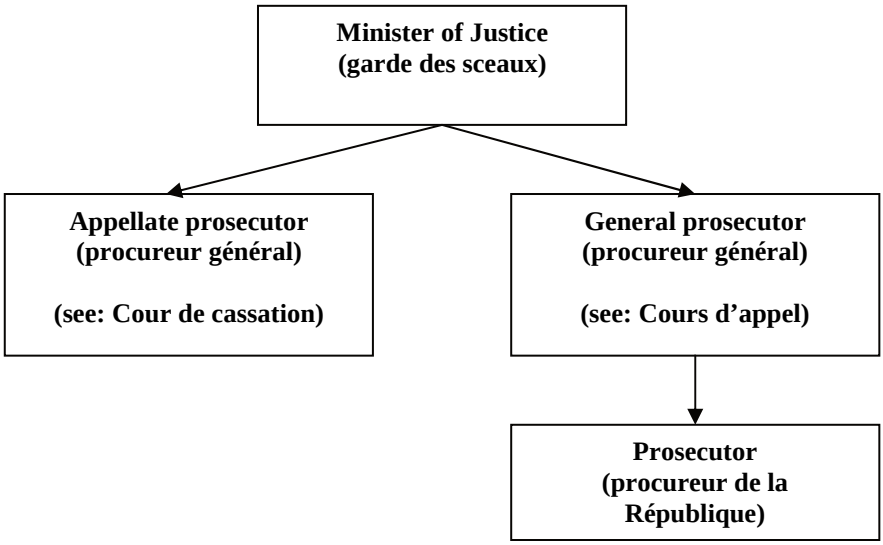
3.3 England and Wales

The Prosecutor's Office is independent of the Ministry of Justice. The Minister of Justice does not have the right to give instructions.[27]

3.4 France

Prosecutors may be removed by and are subordinated to the Minister of Justice (ordonnance of the 22nd of December 1958).[28]

The following chart illustrates the hierarchy of prosecutors in France:



3.5 Italy

In Italy the prosecutor enjoys quasi judicial independence. The functions of the prosecutor are regulated by the Act on the Judicial Organization (ordinamento giudiziario, OG) and the Code of Criminal Procedure.

[27] Andrew Sanders and Richard Young, *Criminal justice* (London: 2000).

[28] Wilfrid Jeandidier and Jacques Belot, *Procédure pénale* (Párizs: 1986).
Gaston Stefani and Georges Levasseur and Bernard Bouloc, *Procédure pénale* (Párizs: 2001).

3.6 Austria

The Procurator General is subordinated to the Minister of Justice, who exercises the right to give instructions and the right of supervision in respect of all public prosecutors.

4. The main responsibilities of prosecutors

4.1 Hungary

The prosecutor has three main responsibilities during the procedure:

a) to carry out investigation;

b) to supervise the legality of investigation carried out by the investigating authority; and

c) to represent the prosecution in court proceedings.[29]

ad a) Pursuant to the Criminal Procedure Act, in criminal cases investigation shall be carried out by the prosecutor as a general rule. The prosecutor himself may carry out investigation any time and concerning any case even if the investigating authority is carrying out investigation independently, or the prosecutor may refer the investigation in his own competence even after it has already been started.[30]

However, in some cases investigation may only be carried out by investigating prosecutors or military investigating prosecutors.

ad b) During the supervision of the investigation, the prosecutor shall act as "the master of the case". Rights of supervision exercised by the prosecutor over the investigation (§ 28) may be classified into three main categories:

- the right of access to information about the case,
- the right to give instructions and
- the right to make decisions on the merits.

Within the frames of the right of access to information about the case, the prosecutor may examine the files of the case, and request that the files be forwarded to him, he may be present at the investigative actions and, to this purpose, the prosecutor must obligatorily be informed if investigation has been ordered.

The prosecutor's right to issue instructions includes instructions to complement the crime report, to conduct investigation, to carry out investigative actions and further investigation, as well as instructions to conclude the investigation within the designated deadline, the right to set

[29] Zoltán Hautzinger and Csongor Herke, *The Hungarian Criminal Procedure Law* (Pécs: 2006), 102.

[30] Csaba Szilovics, *Csalás és jogkövetés az adójogban* (Budapest: Gondolat Könyvkiadó, 2003), 194.

aside decisions taken during the investigation, the right to order the termination of the investigation, and if so required, his right to refer the investigation in his own competence.

Finally, among the rights to make decisions on the merits, mention should be made of the right to vary decisions, to adjudicate complaints, to reject crime reports and to terminate the investigation.

ad c) As opposed to his role during the investigation, during the court proceedings the prosecutor no longer acts in the capacity of an authority; at this stage, during the demonstration of evidence he "merely" has the same rights as the defence. Rights exercised by the prosecutor during the court proceedings may be classified as follows:

- rights of access to information about the case and
- rights relating to the advancement of the case.

Among rights of access to information about the case, one should point out the right to be present at the trial, the right to inspect documents, the right to request information and the right to ask questions directly.

Among rights relating to the advancement of the case, one should highlight the right to dispose of the charge, which includes the right to bring charges, to represent the prosecution, to drop charges and to modify the charges. It is here that one should mention the right to decide to refer a case for mediation, to defer charges and to partially set aside charges. Apart from this, the prosecutor may also file motions and objections, make an address (speech) to the court and file for legal remedy.[31]

Among the obligations of the prosecutor it is important to note his obligation to be present at the trial. As of 1 January 2011, the presence of the prosecutor is obligatory at the first instance trial in all cases (§ 241 (1)). Before the district court the prosecution may also be represented by a junior prosecutor. In specific cases the prosecution may also be represented by a trainee prosecutor unless:

- the criminal offence carries a penalty of five years' or more imprisonment pursuant to the law,
- the accused is in detention, or
- the accused – regardless of his legal responsibility – is mentally disabled.

At the second instance trial that is open to the public, the presence of the prosecutor is not obligatory. However, the second instance court may in any case order the prosecutor to be present at the trial.

At the third instance open hearing the presence of the prosecutor is obligatory.

[31] Csongor Herke, "Az ügyészi fellebbezések statisztikai elemzése a súlyosítási tilalom tükrében," *Ügyészek Lapja* 5. (2010): 5-12.

4.2 Germany

The public prosecution office (Staatsanwaltschaft) has three main responsibilities.[32] It is "the mistress of the investigation procedure", it represents the charges in the interim procedure and at the trial, and functions as a penal enforcement authority.[33]

4.3 England and Wales

Compared to their counterparts in other countries, Crown prosecutors play a less significant role in the criminal justice system. They have no powers of supervision over police activity, and it is the police (and not the Crown prosecutor) that may decide whether to bring charges or not. Before 1985 most charges were brought by the police, whose official role extended to both investigation and the bringing of charges. The Prosecution of Offences Act of 1985 conferred on the police the powers to decide whether to initiate prosecution. But if the police have started the process of prosecution; following this, they have to hand over the files to the CPS, which is entitled to terminate the case.[34]

Apart from this, for a long time, the right of audience of Crown prosecutors was restricted to the Magistrates' courts; therefore, in the case of proceedings taking place before the Crown Court, they were obliged to engage a member of the independent Bar.[35] In 2000 Crown prosecutors gained rights of audience to attend hearings before the Crown Court as well.

4.4 France

In France the prosecutor represents public prosecution and gives effect to the law (Constitution, Article 31 (1)).[36] He represents public interest in the criminal procedure; the prosecutor is one and indivisible.[37] He is not accountable to the parties for his decisions; neither do parties have the right to remove the prosecutor actually acting in their case. The office has a

[32] Jupp Joachimski and Christine Haumer, *Strafverfahrensrecht* (Stuttgart-München-Hannover-Berlin-Weimar-Dresden: 2010).
[33] Albin Eser, *Einführung in das Strafprozeßrecht* (München: 1983).
[34] John Rason Spencer, *La procedure pénale anglaise (Que sais-je?)* (Paris: 1998).
[35] Martin Wasik, *Criminal justice, text and materials* (London: 1999).
[36] Jean-Claude Soyer, *Droit pénal et procédure pénale* (Párizs: 2000).
[37] Fabian Pfefferkorn, *Einführung in das französische Strafverfahren* (Hamburg: 2006).

hierarchical structure, and all prosecutors are obliged to comply with the instructions of their immediate superiors.[38]

4.5 Italy

The functions of the prosecutor are regulated by the Act on the Judicial Organization (ordinamento giudiziario, OG) and the Code of Criminal Procedure. Based on these rules, Italian legal theory points out four functions of the prosecutor:

- the prosecutor shall safeguard compliance with the laws, ensure the fast and smooth operation of the administration of justice, provides legal protection for the State, legal persons and those who lack legal capacity (OG, Article 73);
- the prosecutor shall take charge of the prosecution of crime, carry out investigation in order to decide whether the case should be brought before the court or terminated (OG, Article 73);
- the prosecutor shall represent public prosecution before the court in cases where the results of the investigation constitute sufficient justification for bringing the case before the court (CPP Article 50, para. 1);
- the prosecutor shall ensure that judgments and all other court decisions taken in the cases specified by law are enforced (OG Article 73).[39.]

4.6 Austria

The prosecutor's main responsibilities in Austria are the following:

- to forward the motions submitted during the investigation to the court;
- in justified cases, the public prosecutor's office is entitled to merge cases or split them into several cases;
- in every case the investigation is directed by the prosecutor;
- right of supervision (to decide about the motions and complaints, except the investigative acts falling within the competence of the judge);
- the prosecution delivers most of its instructions to the police orally (which is recorded), but all directions against which it is possible to apply for remedy must be reduced to writing (except where there is an insurmountable obstacle). Some directions must be given in a

[38] Franz Kill, *Die Stellung der Staatsanwaltschaft im französischen und deutschen Strafverfahren* (Bonn: 1960).
[39] Mario Pisani, ed., *Il codice di procedura penale* (Bologna: 1999).

written form (for example, employing covert detectives, StPO § 131);
- the expert is designated by the prosecutor (and not by the police), and the defence may file an objection against the appointment;
- any of the investigative acts may be attended or performed by the prosecutor himself;
- it is always the prosecutor that decides about the termination of the investigation, he will discontinue it, refer the case for diversion, or prosecute.

5. Conclusion

The prosecution service's structure is parallel to the courts in most countries.[40] The structure is independent of the state organization. For example, in Hungary the prosecution service has a four-tier organizational structure, being divided into local, county, territorial and national bodies, although the state organization is not federal. Germany has got a federal state organization and, parallel to this, the prosecution service has a four-tier organizational structure as well. Meanwhile, in Austria the prosecution system (in line with the court system) comprises only three levels.

In some countries there are also special prosecution offices. Some are totally different from the normal prosecution services (e.g. the National Institute of Criminology in Hungary or the public service government agencies in England: the Inland Revenue, the Department of Social Security, the Serious Fraud Office etc.). But there are also special bodies within the prosecutor's organization (e.g. the investigating prosecutors or military investigating prosecutors in Hungary; the procura distrettuale antimafia at the regional level and the procura nazionale antimafia at the national level in Italy; or the Central Public Prosecution Service for Combating Economic Crime and Corruption in Austria).

An interesting question is the relationship between the Prosecutor's Office and the Ministry of Justice. In Hungary, England and Wales, and Italy, the Prosecutor's Office is independent of the Ministry of Justice. In Germany the Minister of Justice has no right of devolution, not being an organization in the nature of a prosecution office but has the right of substitution. In France prosecutors are subordinated to the Minister of Justice, and the situation is the same in Austria where the Procurator General is subordinated to the Minister of Justice, who exercises the right to give instructions and the right of supervision in respect of all public prosecutors.

The main responsibilities of prosecutors are the following:
- to carry out investigation;

[40] Christine Van den Wyngaert, *Criminal procedure systems in the European Community* (London: 1993).

- to supervise the legality of investigation carried out by the investigating authority;
- to represent the prosecution in court proceedings;
- to function as a penal enforcement authority.

In Hungary the prosecutor has the first three, while in Germany the last three main responsibilities. Compared to their counterparts in other countries, in England and Wales Crown prosecutors play a less significant role in the criminal justice system, they only represent the prosecution in court proceedings. By contrast in Italy prosecutors have all of the four functions. In a comparative law perspective, the Austrian public prosecutor's office has the most functions.

Transfer of Ownership in Dacian Sales Documents

JUSZTINGER, JÁNOS

ABSTRACT *In order to get a full picture of the regulation of transfer of ownership in Roman sales contracts, this essay investigates documents that allow access to everyday contract practice. Roman law, following the so-called traditional principle of the acquisition of ownership, required both the agreement of the parties and the traditio of commodity (merx) as conditions of the transfer of ownership. Causa emptionis is a recognised title for the transfer of ownership: thus the purchaser acquires the ownership if the handover of the commodity happens on the grounds of sale, as required for the performance of the sales contract. On the other hand, if the vendor had already given the commodity to the purchaser before the payment of purchase price (pretium), one more condition was necessary for the acquisition of ownership. Both the classical and the Justinian Roman law required the payment of purchase price for the purchaser's acquisition of ownership, but this rule became formal due to the possibility of crediting pretium. Certainly, the relationship of mutual performances cannot be described setting out from a comprehensive and unified model at any stages of Roman legal development. For this reason, this essay presents the Dacian wax-tablets, which report on the application of everyday Roman imperial law in the classical age. In the case of Dacian sales documents we can see the outstanding role of paying the purchase price in the real fulfilment of mancipatio, which also confirms that the sale by mancipatio – deriving from the characteristics of the act – could require the performance of pretium even in the case of transferring res nec mancipi. Thus, it can be stated that in Roman law the performance of purchase price having an effect on the transfer of ownership – similarly to the regulation by modern codifications of private law – was brought to an issue in everyday practice.*

KEYWORDS *transfer of ownership, contract practice, Dacian wax-tablets, Roman law, sales documents*

1. Introduction

Roman law, following the so-called traditional principle of the acquisition of ownership,[1] required both the agreement of the parties and the

[1] Continuing Roman legal traditions, beyond the Austrian, Swiss, and Dutch law, our Civil Code (Act V of 2013 on the Civil Code, Section 5:38 [1]-[2]) also requires

traditio of commodity *(merx)* – typically the actual handover allowing the acquisition of ownership through usucaption[2] – as conditions of the transfer of ownership.[3] Although antique regulation separated the legal transaction from its performance – in our case the sale from *traditio* –, the transfer of ownership was not independent of the agreement of the parties, since the existence of a valid contract – as a required title to certify the acquisition of

a suitable acquisition form (handover of personal ownership, land registration of real estate) – beyond the title of acquisition – for the transfer of ownership. The German Civil Code *(Bürgerliches Gesetzbuch)* requires only a handover but not a valid title of acquisition for the acquisition of ownership (so-called abstraction principle), as it regards *traditio* as an abstract transaction of transferring rights *(Verfügungsgeschäft)*. See more about this topic in latest literature in a historical-legal comparative approach by Bruno Rodríguez-Rosado, *Abstraktionsprinzip und redlicher Erwerb als Mittel zum Schutze des Rechtsverkehrs* (Frankfurt am Main: Peter Lang, 2009), 177. However, on the grounds of – e.g. French and Italian – legal regulation following the consensual (conventional) system the ownership is transferred by the conclusion of the contract. Generally about the issue of transfer of ownership in sale, from a historical-legal comparative point of view (with several studies) see Letizia Vacca, ed., *Vendita e trasferimento della proprietà nella prospettiva storico-comparatistica* I-II (Milano: Giuffrè, 1991). About the regulation of transfer of ownership in modern civil codes see Pascal Pichonnaz, *Les fondements romains du droit privé* (Genève–Zürich–Bâle: Schulthess, 2008), 265-269. Generally about the role of Roman legal tradition in the formation and development of modern systems of civil law see Gábor Hamza, *Az európai magánjog fejlődése. A modern magánjogi rendszerek kialakulása a római jogi hagyományok alapján* (Budapest: Nemzeti Tankönyvkiadó, 2002); Idem, *Le développement du droit privé européen. Le rôle de la tradition romaniste dans la formation du droit privé moderne* (Budapest: L'Université Eötvös Lorand, Faculté de Droit, 2005); Idem, *Entstehung und Entwicklung der modernen Privatrechtsordnungen und die römischrechtliche Tradition* (Budapest: Eötvös, 2009); Idem, *A római jog és hatása a modern jogok fejlődésére* (Budapest: Eötvös, 2013); Idem, *Origine e sviluppo degli ordinamenti giusprivatistici in base alla tradizione del diritto romano* (Santiago de Compostela: Andavira, 2013).

[2] Instead of actual handover-takeover in Justinian law it was enough to have a pure agreement between the parties tending to the transfer and acquisition of ownership *(animus transferendi et accipiendi dominii)*. Cf. Ferenc Benedek, "A iusta causa traditionis a római jogban [= Iusta causa traditionis in Roman law]," *Studia Iuridica auctoritate Universitatis Pécs* 8 (1959): 5; András Földi and Gábor Hamza, *A római jog története és institúciói* [= History and Institutes of Roman Law] (Budapest: Oktatáskutató és Fejlesztő Intézet, 2015[20]), 332.

[3] See Diocl. et Maxim. C. 2, 3, 20 and Ulp. D. 19, 1, 1 pr. Cf. Giovanni Pugliese, "Compravendita e trasferimento della proprietà in diritto romano," in *Vendita e trasferimento della proprietà nella prospettiva storico-comparatistica* I, ed. Letizia Vacca (Milano: Giuffrè, 1991), 25-70.

ownership *(iusta causa traditionis)*[4] – was necessary.[5] *Causa emptionis* – both as a real sale and as a consensual contract[6] – is a recognised title for the transfer of ownership: thus the purchaser acquires the ownership if the handover of the commodity happens on the grounds of sale, as required for the performance of the sales contract. It is presumed that the vendor was the owner, for if he was not, the purchaser – like everybody who acquires in a derivative way – also needs usucaption, and the sale, being a traditional title of acquisition, becomes the legal title of usucaption *(iustus titulus usucapionis)* too.[7]

However, it follows from the rule – which comes from the *bonae fidei* character of sale, ensuring the actual performance of mutual services – that Bechmann[8] called functional *synallagma*[9] that the vendor is not obliged to hand

[4] See Benedek, "Iusta causa traditionis," 1-46; Max Kaser, "Zur iusta causa traditionis," *Bullettino dell'Istituto di Diritto Romano «Vittorio Scialoja»* 64 (1961): 61-97; Juan Miquel, "La doctrina de la causa de la tradición en los juristas bizantinos," *Anuario de Historia del Derecho Español* 31 (1961): 515-529; Okko Behrends, "Iusta causa traditionis: trasmissione della proprietà secondo il 'ius gentium' del diritto classico," *Seminarios Complutenses de derecho romano* 9-10 (1997-1998): 133-169. For a historical and comparative legal analysis see Lars Peter Wunibald van Vliet, "Iusta Causa Traditionis and its history in European private law," *European Review of Private Law* 3 (2003): 342-378.

[5] Paul. D. 41, 1, 31 pr.: *Numquam nuda traditio transfert dominium, sed ita, si venditio aut aliqua iusta causa praecesserit, propter quam traditio sequeretur.*

[6] Contrary to real sale, the consensual *emptio venditio*, as a title for the transfer of ownership, only creates an obligatory right of claim *(causa obligandi)* for the purchaser. Nevertheless,– as it is emphasized by Benedek, "Iusta causa traditionis," 15 — it does not follow from this that we can talk about *emptionis causa traditio* only in the case of real sale and the handover of the commodity could happen *causa solutionis* as the performance of transaction in the case of consensual sale. Cf. Ulp. D. 18, 1, 25, 1: *Qui vendidit necesse non habet fundum emptoris facere, ut cogitur qui fundum stipulanti spopondit.*

[7] See Ferenc Benedek and Attila Pókecz Kovács, *Római magánjog* [= Roman private law] (Budapest–Pécs: Dialóg Campus, 2015[3]), 183. Cf. Pasquale Voci, "Iusta causa traditionis e iusta causa usucapionis," *Studia et documenta historiae et iuris* 15 (1949): 141-185; Hendrik R. Hoetink, "Justus titulus usucapionis et iusta causa tradendi," *Tijdschrift voor Rechtsgeschiedenis* 29 (1961): 230-242; Felix Wubbe, "Die Interessenlage bei traditio und usucapio," *Tijdschrift voor Rechtsgeschiedenis* 32 (1964): 558-576.

[8] See August Bechmann, *Der Kauf nach gemeinem Recht* I (Erlangen: Deichert, 1876), 540-567.

[9] About the issue of functional *synallagma* with further literature see Wolfgang Ernst, "Die Vorgeschichte der 'exceptio non adimpleti contractus' im römischen Recht bis Justinian," in *Festgabe für Werner Flume zum 90. Geburtstag*, ed. Horst H. Jacobs, Eduard Picker and Jan Wilhelm (Berlin: Springer, 1998), 1-57; lately Silvia Viaro, *Corrispettività e adempimento nel sistema contrattuale romano* (Padova: Cedam, 2011).

the commodity over until the purchaser pays the total amount of the purchase price.[10] The purchaser is also entitled to have this right of performance-retention, hence he is not obliged to pay the *pretium* either if the vendor is not ready to hand the commodity over.[11] Thus, according to a legal principle marked as *exceptio non (rite) adimpleti contractus*[12] by modern jurisprudence – also extended to all the synallagmatic obligations beyond sale – after the conclusion of the contract either of the parties may claim consideration from the other only if he has already performed his part or he is ready to perform simultaneously. In this way it is ensured that neither of the parties becomes more disadvantaged with regard to performance, and therefore they are not forced to credit to the other. Another rule – expressing the requirement of balance in value between service and consideration – also follows from the synallagmatic character of sale. It states that the *emptor* can claim the purchase price back from the vendor if he has become the owner of the commodity after the conclusion of the contract based on a *causa*.[13] On the other hand, if the vendor had already given

[10] Ulp. D. 19, 1, 13, 8*: Offerri pretium ab emptore debet, cum ex empto agitur, et ideo etsi pretii partem offerat, nondum est ex empto actio: venditor enim quasi pignus retinere potest eam rem quam vendidit*. Cf. Ulp. D. 47, 2, 14, 1; Ulp.-Marc. D. 21, 1, 31, 8; Scaev. D. 18, 4, 22.

[11] Iul. D. 19, 1, 25: *Qui pendentem vindemiam emit, si uvam legere prohibeatur a venditore, adversus eum petentem pretium exceptione uti poterit "si ea pecunia, qua de agitur, non pro ea re petitur, quae venit neque tradita est." Ceterum post traditionem sive lectam uvam calcare sive mustum evehere prohibeatur, ad exhibendum vel iniuriarum agere poterit, quemadmodum si aliam quamlibet rem suam tollere prohibeatur.*

[12] See René Cassin, *L'exception tirée de l'inexecution dans les rapports synallagmatiques (exception « non adimpleti contractus ») et de ses relations avec le droit de rétention, la compensation et la résolution* (Paris: Sirey, 1914) and Freerk Brandsma, "De 'exceptio non adimpleti contractus' en de 'condictio indebiti'. Betaalt degene die een opschortingsrecht had kunnen inroepen, maar dat niet doet, onverschuldigd als de tegenprestatie uitblijft?," *Groninger Opmerkingen en Mededelingen* 27 (2010): 147-162.

[13] Paul. 2, 17, 8: *Fundum alienum mihi vendidisti: postea idem ex causa lucrativa meus factus est: competit mihi adversum te ad pretium recuperandum actio ex empto.*; Ulp. D. 19, 1, 13, 15: *Per contrarium quoque idem Iulianus scribit, cum Terentius victor decessisset relicto herede fratre suo et res quasdam ex hereditate et instrumenta et mancipia bellicus quidam subtraxisset, quibus subtractis facile, quasi minimo valeret hereditas, ut sibi ea venderetur persuasit: an venditi iudicio teneri possit? Et ait Iulianus competere actionem ex vendito in tantum, quanto pluris hereditas valeret, si hae res subtractae non fuissententiarum.*; Paul. D. 21, 2, 9: *Si vendideris servum mihi Titii, deinde titius heredem me reliquerit, Sabinus ait amissam actionem pro evictione, quoniam servus non potest evinci: sed in ex empto actione decurrendum est.* Cf. Markus Wimmer, "Fälle des „Concursus Causarum" von Vermächtnis und Kauf im römischen Recht," *Tijdschrift voor Rechtsgeschiedenis* 69 (2001): 214-215.

the commodity to the purchaser before the payment of purchase price, one more condition was necessary for the acquisition of ownership – deriving from *causa emptionis*. Both the classical[14] and the Justinian[15] Roman law required the payment of purchase price for the purchaser's acquisition of ownership, but this rule became formal due to the possibility – based on pledge, bail or simply confidence in the purchaser *(fidem emptoris sequi)* – of crediting *pretium.*[16]

Certainly, the relationship of mutual performances cannot be described setting out from a comprehensive and unified model at any stages of Roman legal development. In order to get a full picture of the role of the payment of purchase price in the acquisition of ownership, it is necessary to examine the documents that put the concrete sales contracts in writing and thus allow access to everyday contract practice. For this reason, in the following the essay presents the Dacian wax-tablets, which report on the application of everyday Roman imperial law in the classical age.

2. About the relationship between the transfer of ownership and the payment of purchase price in the sales contracts of provincial practice in the classical age

In 1885 sales contracts preserved on wax-tablets[17] were found in the Katalin-mine next to the Transylvanian village, Verespatak. These contracts

[14] Gai. D. 18, 1, 53: *Ut res emptoris fiat, nihil interest, utrum solutum sit pretium an eo nomine fideiussor datus sit. Quod autem de fideiussore diximus, plenius acceptum est, qualibet ratione si venditori de pretio satisfactum est, veluti expromissore aut pignore dato, proinde sit, ac si pretium solutum esset.*; Pomp. D. 18, 1, 19: *Quod vendidi non aliter fit accipientis, quam si aut pretium nobis solutum sit aut satis eo nomine factum vel etiam fidem habuerimus emptori sine ulla satisfactione.*

[15] Inst. 2, 1, 41: …*venditae vero et traditae non aliter emptori adquiruntur, quam si is venditori pretium solverit vel alio modo ei satisfecerit, veluti expromissore aut pignore dato. quod cavetur quidem etiam lege duodecim tabularum: tamen recte dicitur et iure gentium, id est iure naturali, id effici. sed et si is qui vendidit fidem emptoris secutus fuerit, dicendum est, statim rem emptoris fieri.*

[16] For more detailed information, with references to further reading, see János Jusztinger, "Tulajdonszerzés és vételárfizetés a római adásvételnél [= Acquisition of ownership and purchase price paying in Roman sales contracts]," *Jura* 19/1 (2013): 23-36.

[17] We can find the first complete edition of the 25 Dacian documents in volume III of *Corpus Inscriptionum Latinarum* (Inscriptiones Asiae, provinciarum Europae Graecarum, Illyrici Latinae, ed. TH. MOMMSEN, Berlin 1873 [CIL III]). The whole material referring to the contracts of the wax-tablets was elaborated by Elemér Pólay in his monograph published in Hungarian. See Elemér Pólay, *A dáciai viaszostáblák szerződései* [= The contracts of Dacian wax-tablets] (Budapest: Közgazdasági és Jogi Könyvkiadó, 1972).

allow access to the legal life of Dacia province of the 2nd century A. D., hence their analysis can answer the question whether the everyday Dacian contract practice – forming its legal life basically according to the imperial law as a new province – required the payment of purchase price for the acquisition of ownership or contented itself with the crediting of purchase prices, reflecting the supposed standpoint of classical Roman law, or possibly ignored this rule.

Four sales contracts remained in the form of *triptychon* on the Dacian wax-tablets.[18] Three tablets out of them deal with slave sale (Tablet VI,[19] VII,[20] and XXV[21]), while the fourth contract is about buying a house(part) (Tablet VIII[22]).[23]

In order to get a closer picture of the performance of *pretium* having an effect on the acquisition of ownership in provincial practice in the age of Principatus, in the following I will examine those parts of the abovementioned four sales contracts which specifically refer to the documentation of the receipt of commodity, the stipulation of consideration and the payment of purchase price.

T. VI (FIRA III Nr. 87.):

Maximus Batonis puellam nomine Passiam … emit mancipioque accepit de Dasio Verzonis … (denariis) ducentis quinque … Proque ea puella, quae s(upra) s(cripta) est, (denarios) ducentos quinque accepisse et habere se dixit Dasius Verzonis a Maximo Batonis.

T. VII (FIRA III Nr. 88.):

Dasius Breucus emit mancipioque accepit puerum Apalaustum … apocatum pro uncis duabus, (denariis) DC de Bellico Alexandri … Proque eo puero, q(ui) s(upra) s(criptus) est, pretium eius (denarios) DC accepisse et habere se dixit Bellicus Alexandri ab Dasio Breuco.

T. VIII (FIRA III Nr. 90.):

Andueia Batonis emit manci[pioque] accepit domus partem dimidiam … (denariis) trecentis de Veturi[o Valente] … Proque ea do[mus partem dim]idiam pretium (denarios) CCC Vetur[ius

[18] Cf. Pólay, *Dáciai viaszostáblák*, 40-43; IDEM, "Verträge auf Wachstafeln aus dem römischen Dakien," *Aufstieg und Niedergang der römischen Welt* II 14 (1982): 509-510.

[19] FIRA III Nr. 87. (CIL III. p. 937. Suppl. p. 2215.)

[20] FIRA III Nr. 88. (CIL III. p. 941.)

[21] FIRA III Nr. 89. (CIL III. p. 959.)

[22] FIRA III Nr. 90. (CIL III. p. 945.)

[23] Cf. Constantin Stelian Tomulescu, "Le droit romain dans les triptiques de Transylvanie (Les actes de vente et de mancipation)," *Revue internationale des droits de l'antiquité* 18 (1971): 691-710.

V]ale<n>s a[b A]n[du]ei[a Ba]tonis accepiss[e et] <h>ab[ere se dixit].

T. XXV (FIRA III Nr. 89.):

Cl(audius) Iulianus … emit mancipioque accepit mulierem nomine Theudotem, apochatam pro uncis duabus (denariis) quadringentis viginti de <<de>> Cl(audio) Phileto … Inque ea<m> mulierem, quae s(upra) s(cripta) est, pretium eius (denarios) CCCCXX accepisse et habere se dixit Cl(audius) Philetus a Claudio Iuliano mil(ite) s(upra) s(cripto).

It emerges from the quoted texts that the contracts – although according to the date of their conclusion they spanned more than two decades (139-160) – were formulated by the same scheme. Thus, the phrase of "*emit mancipioque"* ("he bought and received through *mancipatio*") was applied in all of them so as to mark the fact of purchase and transfer of ownership, and in addition, every document contains – beyond the agreement on the amount of *pretium* – the stipulation of the performance of purchase price, precisely the receipt of *pretium* by the vendor *("accepisse et habere").*

It makes the joint examination of these documents especially important that all of them put the so called sale by *mancipatio ("emit mancipioque")* in writing.[24] Considering the fact that these contracts can be dated from the reign of Antoninus Pius (138-161), in the middle of the classical age when the rite of *mancipatio* had already been conducted only symbolically *(nummo uno)* for centuries, they can be suitable for supporting the thesis that *mancipatio* maintained the requirement of paying the purchase price after becoming *imaginaria venditio*.

First of all, it is necessary to clarify whether the act of *mancipatio* – only as *nummo uno* – happened before the conclusion of the agreement in reality. If the parties really conducted *mancipatio* as an act for the transfer of ownership, it – as a part of the rite – brought the satisfaction of the requirement of paying the purchase price along.

In connection with the referred Dacian wax-tablets, it can be – at least an apparent – obstacle to the acceptance of the application of *mancipatio* as an abstract act for the transfer of ownership, that a part of the subjects of the preserved contracts must have been peregrines.[25] Furthermore, according to

[24] According to this, we can find every document in chapter V of volume III of FIRA under the title of *"Mancipationes emptionis causa factae"*. This classification – according to his case stated further on – is impugned by Wolfgang Kunkel, "Epigraphik und Geschichte des römischen Privatrechts," *Vestigia, Beiträge zur alten Geschichte* 17 (1972): 221.

[25] Cf. Elemér Pólay, "Die Zeichen der Wechselwirkungen zwischen dem römischen Reichsrecht und dem Peregrinenrecht im Urkundenmaterial der siebenbürgischen

Tablet VIII the object of sale was a provincial land qualified as *res nec mancipi*.[26] In technical literature we can find several suggestions as to how to reconcile such an application of *mancipatio* contrary to *ius civile*.

Weiss,[27] then Pringsheim[28] drew attention to the fact that the texts do not say a word about the lack of *commercium*-ability of the contracting parties,[29] thus the principle of applying *mancipatio* did not suffer a breach in the documents.

In Visky's view the difference between *solum Italicum* and *solum provinciale* was disappearing in the 2nd century A. D., therefore the parties could easily transfer the property of a provincial land *(res nec mancipi)* as an object of sales contract referring to house(part) with *mancipatio.*[30]

In Kaser's opinion we cannot talk about a different provincial practice, but the matter at issue is that the editor of the documents noted the text on the basis of an old "Formularbuch" as he perhaps did not know the exact text of the referred *edictum*.[31]

The *testatio* character of the examined documents does not make the answer obvious either. Although it is evident that literacy – coming to the front mainly in the imperial age – accompanied the spread of documents written about the act of *mancipatio,*[32] it is not sure at all that the act was conducted in reality – mainly with the observance of prescribed formalities – according to the text on the tablets. A further question is whether *mancipatio*

Wachstafeln," *Zeitschrift der Savigny-Stiftung für Rechtsgeschichte, Romanistische Abteilung* 79 (1962): 51-85.

[26] Cf. Imre Molnár, "Egy dáciai házvételi szerződésből levonható tanulságok, különös tekintettel mai jogunkra nézve [= Lessons drawn from a Dacian sales contract of a house, in special regard to our modern law]," *Jogtörténeti Tanulmányok* 9 (2008): 256-257.

[27] See Egon Weiss, "Peregrinische Manzipationsakte," *Zeitschrift der Savigny-Stiftung für Rechtsgeschichte, Romanistische Abteilung* 37 (1916): 136-139.

[28] Cf. Fritz Pringsheim, "Eigentumsübergang beim Kauf," *Zeitschrift der Savigny-Stiftung für Rechtsgeschichte, Romanistische Abteilung* 50 (1939): 346.

[29] Contra see Max Kaser, "Vom Begriff des 'commercium'," in *Studi in onore di Vincenzo Arangio-Ruiz: nel XLV anno del suo insegnamento II*, ed. Mario Lauria (Napoli: Jovene, 1953), 141; Philippe Meylan, "La mancipation et la garantie d'eviction dans les actes de vente de Transylvanie et d'Herculanum," in *Sein und Werden im Recht. Festgabe für Ulrich von Lübtow zum 70. Geburtstag am 21. August 1970*, ed. Walter G. Becker and Ludwig Schnorr von Carolsfeld (Berlin: Duncker&Humblot, 1970), 419.

[30] Cf. Károly Visky, "Quelques remarques sur le question des mancipations dans les triptyques de Transylvanie," *Revue internationale des droits de l'antiquité* 11 (1964): 278-279.

[31] See Max Kaser, "Zum Ediktsstil," in *Festschrift Fritz Schulz II*, ed. Hans Niedermeyer and Werner Flume (Weimar: Böhlau, 1951), 44.

[32] Cf. Földi and Hamza, *Római jog*, 323.

separated from the consensual sale as a way of transfer of ownership performing the contract or whether there was a simple real-sale.

Regarding the function of documents and the judgement of their legal effect, the standpoint of technical literature is not unified. In Pólay's point of view the examined documents serve as proof of the fact that the transfer of ownership happened in reality as well.[33] However, he does not have a definite answer to the question as to how far this transaction separated from sale. While he thinks that the phrase of *"emit mancipioque accepit"* appearing in the introduction of the documents indicates two different acts (the consensual sale and the transfer of ownership by *mancipatio*)[34], from the fact that the purchase price was acknowledged[35] on every tablet, he draws the conclusion that in Dacian practice the general type was real-sale.[36]

According to Kunkel the documents served for writing down the already concluded and performed transactions, making it easier to prove the vendor's guarantee and the purchaser's acquisition on the grounds of sales contract, thus their putting in writing cannot be regarded as the establishing act of consensual contracts.[37] In his opinion it is irrelevant whether the sale appears in the documents in *mancipatio*-form – without function – or as a formless consensual contract.[38]

Based on the expression of *"emit mancipioque"* Peters reckoned that the vendor was expressly obliged to fulfil the act of *mancipatio*.[39]

Examining the guarantee-*stipulatio*s connected to hidden faults, Jakab notes that the expressions of *"mancipatio"* and *"stipulatio duplae"* – appearing next to each other in the documents – are unnecessary and contradictory.[40] According to her observations, writing down was necessary mainly for proving the acquisition of ownership, not for establishing the parallel liabilities or lawsuits.[41]

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[33] Cf. Pólay, *Dáciai viaszostáblák*, 148-152.
[34] See Pólay, *Dáciai viaszostáblák*, 152.
[35] See the clause of *"accepisse et habere"* in every document.
[36] See Pólay, *Dáciai viaszostáblák*, 155.
[37] Cf. Kunkel, "Epigraphik," 218-220.
[38] See Kunkel, "Epigraphik," 221.
[39] See Frank Peters, "Die Verschaffung des Eigentums durch den Verkäufer," *Zeitschrift der Savigny-Stiftung für Rechtsgeschichte, Romanistische Abteilung* 96 (1979): 179.
[40] See Éva Jakab, "Latin nyelvű adásvételi okiratok a Római Birodalomból," in *Ad geographiam historico-iuridicam ope iuris Romani colendam Studia in honorem Gábor Hamza*, ed. András Földi, István Sándor and Iván Siklósi (Budapest: Eötvös, 2015), 212. Cf. Idem, *Stipulationes aediliciae. A kellékhibákért való helytállás kialakulása és szabályai a római jogban* [= The formation and rules of the guarantee against latent defects in Roman law] (Szeged: József Attila Tudományegyetem, Állam- és Jogtudományi Kar, 1993), 77-78.
[41] See Éva Jakab, *Stipulationes*, 82.

With their objective – 3rd person singular – phrasing, the examined documents regarding *mancipatio* definitely comply with the formal characteristics of the so called double-documents *(testationes)* which are written on *triptychon*s.[42] In my view, in the Dacian provincial practice – with the abovementioned distortions – the parties really applied *mancipatio* known by *ius civile* in order to transfer ownership. In addition, I think that the expression of *"emit mancipioque accepit"* makes it probable that the parties concluded a consensual sales contract separated from the act of *mancipatio*. The fulfilment of *mancipatio* – as an acquisition form serving the performance of sale – implementing the transfer of ownership which depends on the payment of purchase price and the handover of the commodity happened only after that.

By examining the Dacian sales documents it can be stated that in the classical age the provincial contract practice required – beside the handover of commodity – the payment of purchase price in order to acquire ownership. In my opinion, the basic reason for this is not in the Hellenistic effects emphasized by Pólay,[43] and it cannot be regarded as the consequence of the specific interaction of imperial and provincial law.[44] I do not share the standpoint of Szűcs either, who says that imperial law required the payment of *pretium* for acquisition of ownership only in public interest, in the case of written sales contracts about taxable properties, such as provincial lands.[45] This thesis seems to be plausible as long as we consider only document Nr. VIII,[46] which deals with the sale of a house(part). However, as we have seen, the contracts dealing with slave sales[47] applied the same formula referring to the transfer of ownership by *mancipati*, as the text examined by the author.

Thus, I see the significance of paying the purchase price in the actual fulfilment of *mancipatio* as one that implements the transfer of ownership connected to sale. On the one hand, the contracts of Dacian wax-tablets can prove that everyday practice could easily diverge from the prevailing – in this case the classical – legal view which recognized the rule of paying the purchase price as merely formal, and on the other hand they confirm that the sale by

[42] Cf. Pólay, *Dáciai viaszostáblák*, 62-64.
[43] See Elemér Pólay, "Die Spuren eines hellenistischen Einflusses in den Verträgen der siebenbürgischen Wachstafeln," *Labeo* 19 (1973): 330-338.
[44] Cf. Molnár, "Dáciai házvételi szerződés," 253.
[45] See Magdolna Szűcs, "A vételár kifizetése mint a tulajdonszerzés feltétele. Inst. 2, 1, 41 [= The payment of purchase price as a condition of the acquisition of ownership. Inst. 2, 1, 41]," in *Római jog és a magánjog fejlődése Európában. Tanulmányok Molnár Imre 75. születésnapjára* [= The development of Roman law and private law in Europe. Studies for Imre Molnár's 75th birthday], ed. Éva Jakab (Szeged: Szegedi Tudományegyetem, 2011), 210.
[46] FIRA III Nr. 90.
[47] FIRA III Nr. 87-89.

mancipatio – deriving from the characteristics of the act – could require the performance of *pretium* even in the case of transferring *res nec mancipi*.

3. Conclusion

First of all, the investigations conducted with regard to the relationship between the payment of purchase price and the acquisition of ownership wanted to confirm that both the determination and the performance of *pretium* constituted a significant turning-point in the development of sales contract. After analyzing several documents of contract practice, there is no cause to query that the rule of paying the purchase price – although with different intensity and originating from different causes – appeared continuously at various stages of the development of Roman law, hence it could have a place in the codes of Justinian codification.

The early act of real-sale by *mancipatio* rendered the requirement of paying the purchase price necessary, as the time of conclusion and the performance of contract did not separate from each other, and it is evident that the performances of the two parties – the handover and the payment of *pretium* – took place at the same time as mutual conditions. However, it cannot be regarded as a kind of extra requirement, nor as a constitutive condition of the transfer of ownership, because it is nothing else but an elemental part of the transaction fulfilled immediately from hand to hand.

Concerning the formation of consensual sale, it does not seem to be unreasonable to conclude that despite the handover of commodity, the purchaser does not acquire the proprietorship, thus if the *emptor* does not perform, the *venditor* can at least reclaim his commodity. The most obvious way to ensure the vendor's interest – without a concrete stipulation referring to the maintenance of proprietorship – is the application of the rule which makes the transfer of ownership dependent on the payment of *pretium*. All these are true when only the purchaser has the possibility to postpone the performance or pay by instalments. As soon as the situation is the same on the vendor's side, the examined prescription – ensuring the balance of performances – does not have such a big significance.

Thus, by the classical age, when it is acknowledged that the pure agreement of the parties – tending to postponed performances – is enough for the establishment of a sale and *emptio venditio* functions merely as a title of acquisition (*iusta causa*) in connection with the transferring transaction, the prescription appears with a smaller intensity. The requirement of paying the purchase price remains in a less strict form – being deprived of its functional significance – and the Justinian compilers take it over in the same sense.

If we have a look at everyday contract practice, we can find some examples that diverge from the prevailing (imperial) legal standpoint, as well

as some examples that follow it. In the case of the Dacian documents we can see the outstanding role of paying the purchase price in the real fulfilment of *mancipatio*, which also confirms that the sale by *mancipatio* – deriving from the characteristics of the act – could require the performance of *pretium* even in the case of transferring *res nec mancipi*.

As a conclusion, it can be stated that in Roman law the performance of *pretium* having an effect on the transfer of ownership – similar to the regulation by modern codifications of private law – was an issue in everyday practice. Moreover, independent of the rule of paying the purchase price, if the vendor wanted to retain his proprietorship on the commodity given to the purchaser – until the full payment of purchase price at the longest[48] – he could do so, even in such a way in which, according to the parties' agreement, the purchaser rented the object of sale until paying the purchase price,[49] or the commodity was given to the purchaser as *precarium* for that time.[50] These two specifically Roman ways[51] of retention of proprietorship guaranteed that the purchaser could not have the received commodity despite a concluded and operative sales contract. In these cases the performed *traditio*, the handover of ownership, was obviously aimed at a temporary usage and not at the change of proprietorship.[52] Furthermore, the vendor could ensure his claim to the payment of purchase price with the appended clause of *lex commissoria* (D. 18, 3), which was an independent *pactum adiectum.* On the grounds of this appended clause – which is regarded as a

[48] Lab. D. 18, 1, 80, 3: *Nemo potest videri eam rem vendidisse, de cuius dominio id agitur, ne ad emptorem transeat, sed hoc aut locatio est aut aliud genus contractus.*

[49] Paul. D. 19, 2, 20, 2: *Interdum locator non obligatur, conductor obligatur, veluti cum emptor fundum conducit, donec pretium ei solvat.* Cf. Iav. D. 18, 6, 17; Iav. D. 19, 2, 21; Paul. D. eod. 22 pr.

[50] Ulp. D. 43, 26, 20: *Ea, quae distracta sunt, ut precario penes emptorem essent, quoad pretium universum persolveretur: si per emptorem stetit, quo minus persolveretur, venditorem posse consequi.*

[51] The recognition of the appended clause serving the retention of ownership as an independent *pactum adiectum (pactum reservati dominii)* is a subsequent development connected to the survivorship of Roman law. Cf. Gottfried Schiemann, "Über die Funktion des pactum reservati dominii während der Rezeptionen des römischen Rechts in Italien und Mitteleuropa," *Zeitschrift der Savigny-Stiftung für Rechtsgeschichte, Romanistische Abteilung* 93 (1976): 161-207; Robert Feenstra, "Eigentumsvorbehalt und die Regel von Inst. 2, 1, 41 über das Verhältnis von Kaufpreiszahlung und Eigentumsübertragung," *Tijdschrift voor Rechtsgeschiedenis* 58 (1990): 133-141; Martin Jürgen MAAß, *Die Geschichte des Eigentumsvorbehalts, insbesondere im 18. und 19. Jahrhundert* (Frankfurt am Main: Lang, 2000); Benedek and Pókecz Kovács, *Római magánjog*, 291.

[52] Cf. Karl-Heinz Schindler, "Die Bedeutung der Kaufpreiszahlung im nachklassischen römischen Recht," in *Festschrift für Konrad Duden zum 70. Geburtstag*, ed. Hans-Martin Pawlowski, Günther Wiese and Günther Wüst (München: C. H. Beck, 1977), 556.

resolute condition *(condicio resolutiva)* in most of the sources[53] – the vendor could rescind from the contract if the purchaser did not pay the purchase price by the deadline.[54]

After a short survey of documents presenting the relevant contract practice, it is obvious that the prescription attaching the transfer of ownership to the payment of purchase price – at any stages of the development of Roman law – can be regarded as a provision that depends on the parties' agreement and is determined by everyday practice, rather than a generally applied (main) rule.

[53] Thus, for example, Ulp. D. 18, 3, 1: *Si fundus commissoria lege venierit, magis est, ut sub condicione resolvi emptio quam sub condicione contrahi videatur*. Contra Paul. D. 41, 4, 2, 3: *Sabinus, si sic empta sit, ut, nisi pecunia intra diem certum soluta esset, inempta res fieret, non usucapturum nisi persoluta pecunia. Sed videamus, utrum condicio sit hoc an conventio: si conventio est, magis resolvetur quam implebitur*. Cf. Max Kaser, *Das römische Privatrecht* I (München: C. H. Beck, 1971[2]), 561[71].

[54] Cf. Franz Wieacker, *„Lex commissoria." Erfüllungszwang und Widerruf im römischen Kaufrecht* (Berlin: Springer, 1932); Gyula Éles, "*A lex commissoria a római adásvételnél* [= Lex commissoria at the Roman sales contract]," *Pécsi Tudományegyetem. Dolgozatok az állam- és jogtudományok köréből* 9 (1978): 129-156; Pókecz Kovács Attila, *A szerződéstől való elállás az adásvétel mellékegyezményeinél a római jogban és továbbélése során* [= Rescission from a contract in the appended agreements of sales contract in Roman law and in the course of its survivorship] (Pécs: Pécsi Tudományegyetem, Állam- és Jogtudományi Kar, 2012), 15-104; Idem, "Lex commissoria in Roman law and in modern civil law," in *Kúpna zmluva – história a súčasnosť*, ed. Erik Štenpien (Košice: Univerzita Pavla Jozefa Šafárika, 2013), 261-283; Eleonora Nicosia, *'In diem addictio' e 'lex commissoria'* (Catania: Libreria Editrice Torre, 2013).

The Healthcare System of Hungary in Transition

KIRÁLY, LILLA

ABSTRACT *Processes of globalisation can enhance the efficiency of health care but they cannot make it cheaper. Its main reasons are inherent in demographic problems (ageing society – narrowing circle of contribution payers), slowness of the change of structure due to the lack of a need for integration, changing morbidity, low level of the utilisation of information technology, deficiencies of the aims set concerning well informed patients (patient rights), under-utilization of the possibilities of telemedicine and obviously in the financing of health care.*

What is healthcare? Could the institutions of the social welfare state be successfully built after the political transition in Hungary (1989)? Is the changing of the Hungarian health care system essential according to the operation of the system? What are the main lessons to be learned to serve the Central– East - European region, compared with the experience of the more developed countries? Due to limitation restrictions, the Hungarian public health situation is discussed in this publication rather schematically from the 1950s onwards and in more details after the political transition (1989).

KEYWORDS *organisation and financial support of healthcare systems, public health, health policy*

1. Introduction

What is healthcare? "Healthcare with its organisation and operation is a social subsystem the purpose of which is to maintain, restore and improve the health status of the individual and of the community."[1] This means the motivation of patients using this service to recover as soon as possible and to the greatest extent possible through efficient treatment with the least inconvenience. The attainment of this aim presupposes the infrastructure of service providers (e.g. the state or insurers) and also an increasingly costly health care: efficient and up-to-date therapy, medicines with fewer side

[1] Act CLIV of 1997 on the Healthcare of Hungary paragraph 1.

effects, focussed attention of physicians and nurses which means the provision of an extremely time-consuming service.[2]

It is a fundamental right that people can have a say in the improvement of their own health condition and in the measures aiming at its improvement. People have the right to a healthy life and to be able to do their best to preserve their good health.[3]

In Hungary one sub-type of the social welfare system[4] is social security, which comprises health care schemes[5] and pension schemes.[6] What is the essence of social security?[7] It shows the intersection of political pressures aiming at cutting expenses and paying higher sources, which means the legal and financial basis of covering health expenses. Social security can be approached from the aspect of macro-economy as an economic-financial problem, from the aspect of human rights (social rights, right to social security, human rights and patient rights) and from the aspect of the quality of provision (service). Whichever approach is taken, the sustainability of social security depends on the following essential factors: the extent of the

[2] Judit Simon: "The Role and Potential Areas of Application of the Co-payment: A Publicly Funded Health Care Fee/Premium Paid by the Patient" in *A magyar egészségügy, Társadalmi-gazdasági megfontolások és ágazati véleménytérkép, [The Hungarian Health Care System from a Socio-Economic Aspect and its Map of Sectoral Opinions,]* ed. József Bodrogi et al, (Budapest: Semmelweis Kiadó, 2010), 178.

[3] This must be guaranteed in international treaties, constitutions and also in the laws of the countries.

[4] Social care system maintained by the state in Hungary: (1) Social Insurance, (2) Family Security Benefits, (3) employment services and benefits.

[5] Hungarian state institutions providing health care services: municipal government and county government, within the framework of public service; its forms: 1) comprehensive (covering all citizens), 2) free of charge (after the payment of social security contributions the supply is provided by virtue of citizenship).

[6] Pension benefits: 1) (traditional) social insurance with a felosztó-kirovó (redistributive) social security system based on imposition (levying) and distribution 2) private pension funds with capital interests 3) separate contracts with voluntary pension funds.

[7] There are three main regulatory concepts/types of social welfare systems in Europe (by accessibility and funding): the Beveridgean model established on the English underprivileged law (based on a means-test) e.g. in the UK, Sweden; the social democratic - institutional type based on risk sharing within the community, (based on citizens' right); and the insurance-type, a welfare system based on compulsory insurance which is known as the Bismarckian model and became common in Europe from the 19th century (based on the merits-test) e.g. Germany, Hungary). Now there are mixed systems in Europe, differences occur according to which principle is predominant and which is supplementary. The fourth model should also be mentioned: it is called the Semashko model but this Soviet-style (socialist) model is applied nowhere in Europe now.

role assumed by the state, the level of social solidarity and the exact knowledge of terminological issues.[8]

This study deals with the range of services provided by the health systems of former socialist countries[9] – especially Hungary – their accessibility and operational anomalies, with special regard to the organisation and financial support of the various levels and types of provision (e.g. primary health care,[10] specialised care, emergency care etc.) and public health[11] through state health policy – together with a European overview.

2. The Health System of Central - Eastern Europe after the Socialist Era

The countries of Central – Eastern Europe differ in terms of their traditions, culture and history, however, they share one common element of their historical experiences: there was a communist regime in power for a shorter or longer period of time after 1917, and then continuously for 40 years after 1945; these regimes created similar structures of governance and

[8] The definition of social rights in national laws is not identical with the definition of the EU concepts at community level. In the EU, it is about issues relating to the conditions of work according to the workers' welfare entitlements from the aspect of e.g. labour law, social dialogue, equal opportunity for men and women, health and safety conditions of the work place, employment policy, social welfare system, social security. Thus we distinguish social rights under the EU regulation/dimension and social policies of the Member States. See in detail Henriett Rab, *A nyugdíjbiztosítási ellátások fenntarthatóságának jogi garanciái, [The Legal Guarantees of the Sustainability of Pension Benefits,]* (Budapest: Hvg-ORAC, 2012), 18.

[9] Formal socialist countries in Central-Eastern Europe: Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Romania and Slovenia.

[10] Primary care e.g. in Hungary: family doctor for adults and children and its on-duty system, nursing network for mother and child health care, basic dental care, school medical care and occupational health care.
in "Google Privacy Policy," last modified July 28, 2014,
http://www2.gyemszi.hu/conf/upload/BEK1137_001.pdf.

[11] Public health service is about social activities aimed at the preservation of health and prevention of diseases to improve the health status of the population. These community activities are for different groups of the population in which the participants are state and local government agencies, economic and social organizations and individuals. This goes beyond the activities of the health care system e.g. health promotion, environmental and public health, food and nutrition, health, radiation health, occupational health and epidemiology. in "Google Privacy Policy," last modified July 28, 2014,
http://www2.gyemszi.hu/conf/upload/BEK1137_001.pdf.

public administration and attempted to operate the economy by non-market mechanisms.[12]

In socialist countries the state controlled all economic activities, which brought about a marked decline in production together with a dramatic decrease in tax revenues in the early 1990s, however, a demand for a safety net developed simultaneously.[13] The "inherited" socialist scale of values can be regarded identical: democracy bringing about political stability became known for citizens only after the change of regime.[14]

The role of the state has become stronger in Western European countries due to the defects of the health market in the past century, whilst in Central-Eastern Europe market forces have been introduced to be able to remedy the systemic defects of the oversized state intervention.[15] After the change of regime, the Soviet (Semashko) type state healthcare system was replaced by the former social-principled Bismarck-type social security system in the region. (For example Hungary and Slovenia introduced a single-insurer health insurance system (based on one financing organisation), while the Czech Republic, Slovakia and Poland introduced a multi-insurer system.)[16]

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[12] Saul Estrin, "Az örökség" ["The heritage"] in *Munkaerőpiac és Szociálpolitika Közép-és Kelet Európában, Átalakulás, és ami utána jön, [Labour Market and Social Policy in Central and Eastern Europe; Transformation, and what is coming after it,]* ed. Nikolas Barr et al. (Budapest: Hilscher Rezső Szociálpolitikai Egyesület, 1995), 77.

[13] Some researchers think that the East European preference for equality is an "attitudinal legacy inherited from the socialist times." In Katinka Barysch, "East versus west? The Economic and social model after the enlargement" in *Global Europe, Social Europe*, ed. A. Giddens, P. Diamond and R. Liddle (Cambridge: Polity Press, 2006), 67.

[14] Nikolas Barr and Ralph W. Harbison, "Áttekintés, Remények, könnyek és az átmenet" ["Overview, Hope, Tears and the Transition"] in *Munkaerőpiac és Szociálpolitika Közép-és Kelet Európában, Átalakulás, és ami utána jön, [Labour Market and Social Policy in Central and Eastern Europe; Transformation, and what is coming after it,]* ed. Nikolas Barr et al. (Budapest: Hilscher Rezső Szociálpolitikai Egyesület, 1995), 22-23.

[15] Alexander S. Preker and Richard G.A. Feachem, "Egészség és Egészségügy" ["Health and Health Care"] in. *Munkaerőpiac és Szociálpolitika Közép-és Kelet Európában, Átalakulás, és ami utána jön, [Labour Market and Social Policy in Central and Eastern Europe; Transformation, and what is coming after it,*] ed. Nikolas Barr et al. (Budapest: Hilscher Rezső Szociálpolitikai Egyesület, 1995), 338.

[16] Imre Boncz, "Az állam és a magánoldal szerepvállalása az egészségügyi szektorban: privatizáció és/vagy visszaállamosítás," ["The role of the state and the private sector in the health sector: privatization and/or re-nationalization,"] in *A magyar egészségügy, Társadalmi-gazdasági megfontolások és ágazati véleménytérkép, [The Hungarian Health Care System from a Socio-Economic*

In these countries the reforms launched after the political transition had two main aims: on the one hand to improve living standards mainly through establishing the Western-type market economy, on the other hand to enhance personal freedom through protecting personal rights. The abolishment of central state control and the rapid introduction of unregulated competitive market led to substantial market failures in healthcare. Unfortunately, instead of establishing a relationship characterised by partnership between the state and the newly developed private sector, the privatisation realised within an extremely loose regulatory framework[17] resulted in the unscrupulous enrichment of and pillage by healthcare providers and encouraged patients to utilise services without any control.[18] The price of medicine and therapeutic appliances rocketed due to the liberalisation of prices and wages. The swift switch-over from a normative based system to a performance-dependent incentive system aggravated the problem of keeping prices in check e.g. the annual health budgets of health funds were exhausted within a few months.

Three main principles of health policy developed to solve these problems in Central-Eastern Europe:[19]

1) improving health (improving living standards, encouraging a healthier life-style, environmental protection, increasing the efficiency of preventive and remedial health care);
2) financing health care (restoring macro-economic balance by keeping expenses in check and drawing non-budgetary resources into financing health care, quality control); and
3) enhancing the political and institutional capacity/institutional reform of the health sector (reshaping the training of medical staff, strengthening the medical and administrative infrastructure).

After the political transition – in the '90s – the major changes in equal access to health services in Central-European countries were as follows:[20]

- clear distinction between the roles of public purchasers (offices or insurers) and providers (hospitals, polyclinics);

Aspect and its Map of Sectoral Opinions,] ed. Bodrogi József et al. (Budapest: Semmelweis Kiadó, 2010), 286.

[17] E.g. between the years of 2005-2008 many Hungarian hospitals were privatized, but the private investors withdrew their investment from these institutions formerly received from local governments.

[18] Preker and Feachem, "Egészség és Egészségügy" ["Health and Health Care"], 350.

[19] Ibid. 353.

[20] Csaba Dózsa, "Eredményalapú forrásallokáció: lehetséges és gyakorlati problémák," ["Result-based Resource Allocation: Possible and Practical Problems,"] in *A magyar egészségügy, Társadalmi-gazdasági megfontolások és ágazati véleménytérkép, [The Hungarian Health Care System from a Socio-Economic Aspect and its Map of Sectoral Opinions,]* ed. Bodrogi József et al. (Budapest: Semmelweis Kiadó, 2010), 97-99, 104.

- developing a transparent system of acknowledging and supporting medical procedures and technologies (coverage-policy);[21]
- establishing evidence-based health policy and the institution of strategic purchaser role); and
- integrating health providers or coordinating their activities at a high level instead of a general state of dismemberment (nature of health provision, type of provider, geographical location).[22]

Due to the transition from the socialist form of government to a capitalist one, capital gains appeared on which a health insurance contribution is imposed at present. In a system of health care based on compulsory social security covering everybody, expenses and revenues are not balanced, e.g. social strata who are not in need of it can also buy health (medical) living labour at a low price. The compensation for cheap (medical) living labour is the correction "coming from below", the gratitude money, which is tacitly accepted by all governments of the day (an informal way of financing physicians: public financing for primary health care and gratitude money for extra services). A physician may work as a civil servant, a sole practitioner[23] or a co-owner of a business association in primary health care and as a civil servant, a member of a medical team in inpatient (hospital) care (ward rounds). Physicians and other members of the medical staff migrate to Western Europe (mainly to the UK and Sweden) in large numbers because of low salaries and worsening infrastructural circumstances.

In Hungary those using public-financed health care on a private basis pay for the service twice: 1) they do not get the service they are entitled to in return for their contributions paid 2) they pay the price of the service (e.g. private gynaecological specialised care) from their own personal wealth to providers not having a contract for public financing; such patients could pay only a certain proportion of the expenses or get tax benefits.

Finally, it can be suggested that now each former socialist state would abandon its paternalist role but the demand for a social net does not make it possible. One important element of the democratic form of government envisaged at the time of the change of regime was the creation of the institutions of the social welfare state to replace those of the socialist (paternalist) state, however, neither the political openness accompanying the transformation into a market economy after 1989, nor the accession to the European Union in 2004 facilitated it, these entailed the international

[21] Prioritizing health policy objectives and its specific goals and areas to develop e.g. in the case of drug policy.

[22] E.g CDM (chronic disease management) programmes which enable the use of the quota per person as well.

[23] "Right to practice"/ purchasing practice: the model of the entrepreneur family doctor, the future income must be paid in advance by the family doctor running the business in order to have the right to practice.

mobility of labour force.[24] The introduction of the European Health Insurance Card within the EU meant a step forward in healthcare.[25]

3. The Health System in Contemporary Hungary after the Political Transition

3.1 The preparedness and peculiarities of the health care system

After the change of regime the Hungarian health care system did not undergo a substantial change reshaping its operation: an insurance-based, patient-centred health care system was established in the wording of the health act,[26] however, in fact this health care system does not comply with the act either wholly or in part.[27] The right to health care has changed – compared to the regulation before the change of regime – in that the health act ensures the right to emergency primary care as a civil right and other health care services are accessible for those insured. Those who are not insured are not excluded from primary health care but will have to pay for the service subsequently.

[24] According to Act CVI of 2008, from 1st January 2009 in order to work as a doctor in the EU it is compulsory to make a statement for registration, renewal of the operating license or renewal. Only those who are registered by the Administrative Office of Healthcare Licensing are allowed to perform healthcare activities in the EU.

[25] In 2013, the number of people who have a European Health Insurance Card is close to 200 million. The card is available for free of charge and certifies that the holder is entitled to receive emergency medical treatment under the same conditions as the national citizens in the Member States of the European Economic Area. Its acceptance is mandatory. Permanent workers working abroad must unregister from the national health insurance system, as they are insured in another Member State. He who receives insurance abroad, shall be treated as a foreigner, thus the card owner can have emergency but no other treatment. He who takes a national health service without a valid national social security card (does not pay a contribution fee in that Member State) is obliged to pay the price of the service for the national health insurance. "Google Privacy Policy," last modified July 27, 2014, http://www.webbeteg.hu/cikkek/egeszsegugy/15393/mi_valtozik_iden_egeszsegugy

[26] Act CLIV of 1997 on the Healthcare of Hungary, Preamble

[27] Mária Vojnik, "A magyar egészségpolitika kihívásai és prioritásai" ["Challenges and priorities of the Hungarian health policy"] paper presented about Egészségügyi rendszerek az Európai Unió tagállamaiban és a bővítés hatása a magyar egészségbiztosításra, előadás kivonatok, [Health systems in the EU Member States and the impact of the enlargement on the Hungarian health insurance, abstracts,] (Budapest: OEP Kiadó, 2003), 5.

The current Hungarian unified national insurance system covers all services and products but there is no room for any complementary insurance in the system.[28] Hungary belongs to a group of countries where, in practice, private health insurers[29] do not participate in financing health care. They do not have a role in social security care and complementary insurance has not evolved either. This may have several reasons: obstacles to supply and demand and inadequate regulation.[30]

However, voluntary health insurance funds[31] play an ever increasing role in self-care: although a substantial part of health care services are financed – from contributions paid – by the social security system (Health Insurance Fund), in most cases patients also have to use their own personal wealth when using these services (e.g. paying for medicine and therapeutic appliances, turning to a private practice, etc.). The function of these voluntary health insurance funds is to finance the services not covered by social security. This is a system for saving: the money deposited by the individual or by the employer is managed (accumulated and invested) and when the patient uses a health care service to be paid for in full or partly, he can use the money deposited according to certain rules.[32]

Obviously, the modernisation of health care requires a complex system of means not only in Hungary and in the Central-Eastern European region but in the EU as well: neither market competition nor state measures can in themselves substantially improve the efficiency of the health care system.[33] Efficient regulation presupposes the strengthening and alignment of five fundamental factors: planning, coordination and strengthening of non-market tools in developing the structure of the health care system and the supply of

[28] Simon, "The Role and Potential Areas of Application of the Co-payment," 177-178.

[29] The activity of private insurance businesses finances services not covered by social security and is based on managing unforeseen finances.

[30] Ákos Szalai, and Balázs Nagy and Péter Szalai, *Versengő egészségbiztosítás megteremtése Magyarországon, [Creating Hungarian competitive health insurance,]* accessed on July 25, 2014, http://www.kormanyzas.hu/071/02_SzNSz_biztositas.pdf

[31] Hungarian Act XCVI of 1993 on Voluntary Mutual Insurance Funds

[32] Its advantages: Very low operating costs, low membership fee; up to 30% discounts from the services provided; safe investment policy; providing annual tax benefits, can also be used by relatives. See Melinda Tóth, *Amit az egészségpénztárakról tudni kell, [What you need to know about Voluntary Mutual Health Insurance Funds,]* (Budapest: ETK Szolgáltató Zrt kiadó, 2007), 5.

[33] In all countries of the EU, the cost of health care is rocketing nowadays, causing severe pressure on the social heath care systems (reasons: e.g. ageing population, growing degree of sophistication in health care, the supply of some medical goods and services). Denny Pieters, *Social Security: An Introduction to the Basic Principles*, (The Netherlands: Kluwer Law International, 2006), 90.

services. Competition; strengthening market incentives by changing the techniques of financing in the development of supply and demand of services; tightening state supervision and control over the operation of institutions and the quality of services; and tightening control over the operation of the insurer and service providers in order to better satisfy the needs of patients.[34]

3.2 Public and private financing of health care

The major problems with public financing (compulsory social security) in former socialist countries are as follows:

1) it does not let the demand for the differential payment of medical living labour to prevail legally (this is compensated by the gratitude money given by patients)
2) the survival of the hard line left wing social policy of socialism, which misinterprets the principle of insurance covering everybody and at the same time continuously delimits itself from the split health care system divided into two, "one for the rich and one for the poor" in order to keep political power.

In addition to the compulsory social insurance, two types of voluntary health insurance[35] evolved in Hungary in the '90s: voluntary funds and insurance offered by commercial insurance companies. Their activities satisfy different needs: funds are generally organised on the basis of workplaces (their main purpose is prevention), while private insurers endeavour to meet the individual needs of those with higher salaries and

[34] Éva Orosz, "A magyar egészségbiztosítás néhány stratégiai kérdése, társadalombiztosítás, önkéntes magánbiztosítás" ["A Few Strategic Questions of the Hungarian Health Insurance Service, social insurance, voluntary private insurance"] in *A magyar egészségügy, Társadalmi-gazdasági megfontolások és ágazati véleménytérkép, [The Hungarian Health Care System from a Socio-Economic Aspect and its Map of Sectoral Opinions,]* ed. Bodrogi József et al. (Budapest: Semmelweis Kiadó, 2010), 51-53.

[35] Currently, in the 28 member states of the EU, there are countries which have a single national fund system (e.g. Great Britain) or a mandatory health insurance system operated by self-governments (e.g. Sweden) or a mandatory social insurance system operated by the state (e.g. Germany) or a business private insurance system (e.g. Netherlands). Beside the national systems it is possible to contract for a supplementary private insurance service e.g. in Slovenia 74% of the population, in France 90% of the population have supplementary private insurance. These high ratios are due to tax benefits provided by the state for the insurance premiums and the introduction of high fees for social security services. Besides these compulsory models, a complementary voluntary insurance can also be chosen which covers the services excluded from the compulsory insurance and pays for the fee paid by the patients. Ibid. 47-49.

offer health insurance products (fixed-sum insurance) linked to other insurances. Can there be an overlap between the services offered by compulsory insurance and voluntary insurance? What are its benefits? Those with private insurance use some of the services within the framework of compulsory insurance, while other services within the framework of private insurance, which renders it possible to ensure for the supply to meet the solvent demands/needs of those higher salaried. The introduction of fees payable by private individuals within the framework of compulsory insurance (e.g. services of private hospitals) and the increasing price of medicine may encourage the spread of private insurance funds. These processes may further deepen the inequalities already present in the accessibility of health care; however, in the long run the chance of reducing inequalities appearing transparently within the legal health care system is better than the chance of influencing current inequalities.[36]

The types of publicly financed health systems in Europe are classified on the basis of the way of funding and financing):[37] 1) health services financed from taxes and due as a civil right[38] and 2) insurance systems financed from contributions paid by employers and employees.[39]

The common features of both systems are as follows: increasing the proportion of private funding to keep the increasing expenses of health systems in balance; strengthening the role of primary health care (gate-keeper); replacing traditional hospital care with more up-to-date and cost effective solutions (e.g. one-day surgery, specialised home care and care programmes for patients with a chronic illness – CDM chronic disease management); and equity: unified extension of public financing, strengthening risk pooling, acknowledging the organisational autonomy of health care providers (foundations, joint stock companies, unions, consortia, public companies, private limited liability companies), this can be regarded as a kind of "global management trend" with the integration of organisations and the spread of holding organisations the purpose of which is to coordinate health care at a higher level in the given area and to enhance health gains.

[36] Ibid. 51.

[37] The two basic financing techniques emerging in the European healthcare systems: 1) based on per capita quota (the objective is to improve equity and to ensure access equality) and 2) based on diagnosis-related groups (DRG) for assessing the performance of active inpatient specialised care, and then financing accordingly e.g. in Portugal, Hungary, Norway, See Dózsa, "Eredményalapú forrásallokáció," 83-84.

[38] E.g. Sweden, Finland, UK and the Spanish and Italian decentralised health systems.

[39] It has 3 subtypes: a) competitive model with several social security insurance systems (e.g. Germany, the Netherlands, Czech Republic and Slovakia), b) centralized social security insurance system based on the sectoral and/or territorial principle (e.g. Austria, Belgium) and c) centralised social security insurance system for all citizens (e.g. Hungary, Slovenia and Estonia).

Financing is usually done through cost sharing[40] in the Member States of the EU e.g. in the case of certain medicines and dental care. The forms of cost sharing are: Co-payment: a fixed amount (flat rate) is paid by the patient for the services and Co-insurance: a certain percentage of the total cost is paid by the patient and the outstanding amount is borne by the insurer. The rate of cost sharing differs from country to country e.g. on the basis of income (in Denmark and Ireland there is a monthly deductible[41] amount in the case of high salaried persons); fixed amount (Austria, France, Sweden, Belgium). There are combined (deductible + co-insurance) methods e.g. in the case of buying medicine for each prescription (Denmark, Finland, Germany, Hungary). Sweden is the only country where co-payment is compulsory even in emergency health care. There are some countries where the full cost of dental treatment is borne by the adult patients e.g. in Italy, Spain, Portugal, the Netherlands and Sweden, though in the latter two dental treatment for children is free.

Co-payment has been introduced in Hungary too,[42] by which the proportion of private and public expenditure has become extremely high compared to OECD countries. What are the components of private expenditure in a country where there is no private health insurance contribution, in other words patients do not have to pay for health care?

- the part of the cost of medicine payable by the patient;
- contribution payable for dental treatment;
- gratitude money to doctors (not a legal element); and
- price of for-profit health services paid by patients or private insurers (services of private hospitals and certain cervices of state hospitals: manager screening, better hotel service, fixing an appointment, agreement between the employer and the health care institution for

[40] The advantages of cost-sharing: it reduces the unnecessary use of health care services; efficiency at micro-level enhances the cost-effectiveness of the system at macro-level (cost savings); it increases health care revenues, which provides a more balanced supply for the general public. The disadvantages of cost-sharing: the lack of sufficient information for the population, mostly providers rather than patients make decisions about treatment; the financial burden of increasing costs are borne mostly by the individual rather than the community (community responsibility) and it affects especially the underprivileged patients. See Simon, "The Role and Potential Areas of Application of the Co-payment," 175.

[41] Costs are paid partly by the patient up to a certain degree; costs in excess of this amount or in some special cases within a time period are covered by the insurer.

[42] Its application areas are: general but partial co-payment obligation (e.g. buying drugs; optional co-payments if the patient does not accept the timing of the treatment); general co-payment e.g. cost of seeing the doctor (fee for visiting the GP) - in this case, however, the poorest and the neediest should be compensated. Simon, "The Role and Potential Areas of Application of the Co-payment," 179.

health services e.g. bigger companies buy massage service and therapeutic gymnastics for their employees.)[43]

Gratitude money (informal payment, gratuity payment, gratitude money, under-the table payment, envelope payment) is still a typical element in the practice of health care in the former socialist countries: as a result of the under-payment of doctors and nurses patients supplement the income of doctors and nursing staff by buying better service or closer attention for themselves. Thus gratuity partially expresses gratitude but is mostly given by patients in the hope of a better service. Gratitude money is mostly given to hospital doctors in the case of hospital care (mainly obstetricians, surgeons, paediatricians, internal specialists and family doctors) as patients feel the most defenceless in these situations, which they try to compensate by giving gratitude money.[44] If gratitude money is included in the private expenditure paid for health care, the ratio of private expenditure to public expenditure is higher in Hungary than the average of the EU is.[45] Since physicians "sell" publicly financed services for their own profit, it amounts to corruption,[46] the features of which are as follows:[47] these services (typically obstetrics and surgery) are fully paid for through public financing but long-established traditions almost enforce gratitude money (here gratitude money is given in consideration of choosing the attending physician, requesting the personal participation of the physician); the service is fully paid for but is due only upon the decision of the physician (e.g. the family doctor visits the patient in his home, rendering him comfort care service); services which should be paid for by the patient (e.g. re-qualifying a case of cosmetic surgery as therapeutic surgery); needs linked to services which can be met only in a restricted manner due to the shortage in resources, but the personal decision of the physician can play a part in setting up the order of rank of cases (e.g. order of rank on the waiting list).

[43] Ibid. 180-181.

[44] By a survey of 2009-2008: 72% of service users gave gratuity; annual estimate: 12 -114 billion HUF/ year; officially estimated value: 100 billion/ year.
"Google Privacy Policy," last modified July 28, 2014.
http://www.patikapenztar.hu/dok/halapenz_egyben.pdf

[45] Simon, "The Role and Potential Areas of Application of the Co-payment," 181.

[46] Under Section 293 (1)-(6) of Act C of 2012 on the Hungarian Criminal Code, gratitude money which is not requested in advance but accepted by the doctors qualifies as accepting bribes and an infringement of the law.

[47] Péter Balázs, "Krízishelyzet a humánerőforrás gazdálkodásban, szakemberhiány, megoldási alternatívák az egészségügyben" ["Crisis in human resources management, workforce shortage and alternative solutions in healthcare"] in *A magyar egészségügy, Társadalmi-gazdasági megfontolások és ágazati véleménytérkép, [The Hungarian Health Care System from a Socio-Economic Aspect and its Map of Sectoral Opinions,]* ed. Bodrogi József et al. (Budapest: Semmelweis Kiadó, 2010), 201.

4. The Anomalies of Primary Health Care

The adoption of the Declaration of Alma Ata (WHO, 1978) on the 10 basic principles of primary health care was required to solve the health problems of the community by rendering adequate service to promote health, prevent illnesses, and ensure recovery and rehabilitation, to ensure the dissemination of knowledge about the most frequent health problems and to convey the methods for preventing and eliminating them.[48] The World Health Report 2008 of the WHO emphasises the importance of the urgent transformation of primary health care at international level, encouraging the government of each country to put the strengthening of primary health care in the forefront of their health care reforms, through which the health condition of the whole population can be raised and the social/geographical inequalities of health condition can substantially be reduced. This urges, in addition to therapeutic services, the appearance of complex services[49] aiming at promoting health and preventing illnesses within the range of primary health care services performed in the framework of team work.[50]

The peculiarity of the current system of financing based on quotas is that the volume of financing does not depend on the volume or quality of service rendered. In Hungary primary health care is based on the practices of family doctors, patients go there first. This quota system financially encourages family doctors to maximise the number of patients belonging to their practices and minimise their performance (there is no life-style consultancy or screening to notice illnesses in time).[51] Taken into account health-economic considerations, a move toward mixed-financing linked to performance indicators seems to be needed together with the creation of the system of performance indicators including preventive services offered at the level of primary health care.[52]

What are the most severe problems of the health systems of the former socialist countries in the area of social security health care? Emphasis is placed on higher level (outpatient and inpatient) care instead of allocating more money to prevention and strengthening the service provided by family doctors (primary care) who perform a so-called gatekeeper function. People's illness awareness is not appropriate either: they use health services

[48] Róza Ádány, foreword to *A magyar egészségügy, Társadalmi-gazdasági megfontolások és ágazati véleménytérkép, [The Hungarian Health Care System from a Socio-Economic Aspect and its Map of Sectoral Opinions,]* ed Bodrogi József et al. (Budapest: Semmelweis Kiadó, 2010), 23.
[49] Ibid 23-24.
[50] E.g. clinical psychologists and mental health professionals, physiotherapists, dietetics professionals etc.
[51] Ádány, foreword, 24.
[52] Ibid. 25.

only when they are really in trouble, and as a consequence of it expenses increase and the quality of service worsens. Expenditure curtailing policies together with growing popular expectations and technological development enforce a new method of risk sharing among the manufacturers and distributors of health products and health care providers, public purchasers and insurers.[53]

Health reforms have tried to find solutions to the following fundamental issues in EU Member States in the past decades.[54] How can considerations concerning the health system, the welfare system and economic growth be harmonised both in a short and a long term? How can sustainable funding be ensured? How can unreasonable and unjustifiable differences be reduced in respect of who can get, when and what kind of care in the case of a particular disease? How can patient safety be enhanced? How can patient satisfaction be increased? How can more "health gains" be attained with the resources available? How can modern technology be deployed in a cost effective manner? How can human resources be ensured for the efficient functioning of the health system? How can externalities affecting health condition be influenced? Which should prevail, health care free of charge offered within the framework of social security or the various forms of cost sharing? Is the proportion of public financing high? How should regulation concerning the participation/entitlement of individuals be developed? How should the service package (the range of services belonging to compulsory insurance) and their cost sharing (ratio of public financing to private financing) be determined? How should the method of funding (income sources of compulsory insurance) be determined? What should the mechanism of health insurance funds be like (should there be one national insurance fund or several decentralised ones)? What should the organisational framework of compulsory insurance (organs collecting sources, providing training and education and purchasing services) be like? Is national risk pooling (one unified national health insurance fund) sustainable in the long run? However, the main question is whether the inequalities of access to health care can be eliminated or not in the long run if social security can satisfy only a part of the needs for health care services.

Finally, it can be suggested that no perfect system the efficiency of which satisfies all actors and one which permanently disposes of financial issues exists in any country. Consequently, there is always a need for reforms to improve the situation but reform attempts are generally burdened with failures everywhere as, although there are positive results yielded by health care (life expectancy is steadily increasing, formally incurable diseases can

[53] Ibid. 119.
[54] Orosz, "*A magyar egészségbiztosítás,*" 31., 34.

be cured), the price of modern technology has to be paid from contributions, taxes and insurance premiums paid by the patients.[55]

Some proposals concerning solutions to the issues raised in respect of Central-Eastern European countries:

In respect of services: Patient-centred services are needed instead of a doctor-, intervention- or institution-centred approach; the units of health care services should be organised around patient groups (e.g. a group of patients suffering of cardiac insufficiency instead of separate cardio surgery, cardiology and angiography).

In respect of service providers: Services are highly segmented in terms of specialism (a cardiologist cannot perform an operation instead of a traumatologist) thus there are not many chances to replace living labour, any specialism-specific shortage in labour force can block the operation of the whole system.

In respect of ensuring equal access to services: If the patient could be informed about how much money he gives to the physician through public financing, he could get a better picture about the world of salaries with gratitude money if they could leave the grey zone and could appear in public. Gratitude money as supplementary pay cannot be taken into account as part of public financing, it can only be treated as part of the private economy, its legal form is the supplementary fee paid through private insurance and its price will be calculated by the insurance market. Another possibility is that the publicly financed patient advances money to the insurance fund, in other words pays the amount due under public financing directly to the service provider. The provider issues an invoice about it, and then the fund reimburses this amount to the patient against the invoice.

5. Conclusion

According to the definition given by the WHO, the operation of the health system has three social objectives: (1) improving the health of the population, (2) sharing the burdens entailed in illnesses and (3) increasing the satisfaction of citizens. Consequently, health care can be considered successful if the health condition of the population improves and the difference between the health conditions of the different social groups diminishes simultaneously. Illness restricts people's autonomy, reduces their participation in work and increases their dependence on health care, thus bad health condition has a direct negative impact on the mobility of labour force, on productivity and on public expenditure; this can be counteracted by good

[55] Simon, "The Role and Potential Areas of Application of the Co-payment," 83.

budgetary policy, institutional reforms and by taking into consideration patient rights[56] to the greatest possible extent.[57]

In developed and less developed countries alike, health care expenditure has been steadily increasing in the past decades.[58] Its main causes are: more expensive medical technologies (preventive, diagnostic and therapeutic procedures); growing (patient) needs of the population; broader access to services; demographic changes and the change in the ratio of supporters to dependents.[59] The income side can keep pace with the expenditure side to an ever smaller extent e.g. in Hungary the elements of social security contribution were rearranged between 1993 and 2010: on the one hand, the ratio between health insurance and retirement insurance contributions was shifted in favour of the retirement insurance contribution, on the other hand, the ratio between employer and employee contributions in favour of the employee contribution. International surveys concerning the disturbance of the balance consider the ratio between the roles assumed by the state (public)

[56] Under Hungarian law, every patient has the right – in addition to life-saving interventions – to health care service justified by the state of health and to alleviating pain and suffering. Patient rights in particular: 1) right to health care, 2) right to human dignity, 3) right to maintain contact, 4) right to leave the health care facility, 5) right to be informed and 6) right to self-determination.
Right to health care means continuous access to adequate health care justified by the health condition of the patient and complying with the requirement of equal treatment. Health care is adequate if it complies with the professional and ethical standards and guidelines of the given health service. Access to health care is continuous if its availability is ensured 24 hours a day by the health care system. In addition, the patient has the right to choose the attending physician, unless otherwise provided by law. This right may be restricted in a manner specified by law if it is justified by the professional content, the urgency of the service or the legal relationship on which it is based. "Google Privacy Policy," last modified July 27, 2014. http://www.webbeteg.hu/cikkek/jogi_esetek/374/az-egeszsegugyi-ellatashoz-valo-jog

[57] Nicholas Barr, introduction to *Munkaerőpiac és Szociálpolitika Közép-és Kelet Európában, Átalakulás, és ami utána jön, [Labour Market and Social Policy in Central and Eastern Europe; Transformation, and what is coming after it,]* ed. Nicholas Barr et al. (Budapest: Hilscher Rezső Szociálpolitikai Egyesület, 1995), 13.

[58] The value of the income flexibility in health expenditure was determined to be about 1.5, which means that e.g. in the case of 1% GDP growth, 1.5% increase in health spending should be estimated (1970-1994, OECD countries) see János Kornai and John McHale, "Eltérnek-e a nemzetközileg szokásostól a posztszocialista országok egészségügyi kiadásai?" ["Do health expenditures in post-socialist countries diverge from international trends?"] *Közgazdasági Szemle,* volume XLVIII, July-August 7-8 (2001): 555–580.

[59] The increase in life expectancy of the higher number of elderly people increases health expenditures, while the decrease in the number of the active (middle) class persons will result in a decrease in revenues.

and the private side as the solution to the issue as to who and from what resources will finance the increasing expenditure of health care.[60] In Central-Eastern European countries (the Czech Republic, Slovakia, Poland and Hungary) the public-private ratio.[61] the proportion of public financing is 85% in the Czech Republic, 66% in Slovakia, 70% in Poland and 70% in Hungary. In these countries the health condition of the population substantially deteriorated and the proportion of state resources decreased after the political transition, public financing dropped to 60-70%.[62] But the key problem is the continuing lack of an overarching, evidence-based strategy for mobilizing resources for health, which leaves the health system vulnerable to broader economic policy objectives and makes good governance hard to achieve. On the other hand, Hungary is a target country for cross-border health care, mainly for dental care but also for rehabilitative services, such as medical spa treatment. Health industry can thus be a potential strategic area for economic *development* and growth.[63]

The issue of health care is treated with aloofness by community forming organizations such as the European Union. Unlike items that can easily be determined centrally (e.g. the amount of import duty and the rate of VAT), the unification of social security contributions or health care taxes would run into severe difficulties as the development of the ratio between private and public expenditures are influenced by historical traditions created by socio-economic development.[64] What the particular countries have in common in this process is that health care expenses are shared between state and public sources by utilizing existing means, while taking into consideration the possibilities and needs of both the state and the individual. Changing the

[60] Imre Boncz "Közösségi és magánforrások (public-private mix) szerepvállalása az egészségügyi finanszírozás forrásteremtésében, a fenntartható finanszírozás kihívásai," ["Public and Private Resources in the Financial Sources of the Health System and the Challenges of Sustainable Development,"] in *A magyar egészségügy, Társadalmi-gazdasági megfontolások és ágazati véleménytérkép, [The Hungarian Health Care System from a Socio-Economic Aspect and its Map of Sectoral Opinions,]* ed. Bodrogi József et al. (Budapest: Semmelweis Kiadó, 2010), 56.

[61] The basis of comparing different systems: 1) Who collects insurance premiums, e.g. the government or insurance companies directly? 2) Distribution among particular financing units or risk pools (resource allocation), its methods: on a per capita quota basis (a sum specified for one insured/citizen) e.g. in the case of financing family doctors; on a regional basis (risk pools are made up of persons living in a particular geographical or administrative area); on an insurance basis – randomly by applying to the insurer; on a diagnosis basis: it is a theoretical possibility rather than a method in practice at present. Ibid. 67.

[62] Ibid.

[63] Pieters, *Social Security: An Introduction to the Basic Principles*, 33.

[64] Boncz, "Közösségi és magánforrások," 67.

ratio between public and private sources is the biggest dilemma of decision-making in health policy. The direction of change clearly points toward a decrease in public sources and an increase in private sources, which might cause severe social problems.[65] Nonetheless, the appearance of common interests and principles at the level of legislation in the health systems of the EU proved to be necessary due to social expectations[66] with the objectives of social protection extending to everybody, access to quality services, equal opportunities and the enhancement of solidarity.

The conflict between the attitudes of the EU and Hungary: the main emphasis is placed on public health in EU health policy, while Hungary places the main emphasis on financing primary health care.[67]

[65] Ibid. 73.
[66] 2006/C146/01, EU COM (2007) 630 final.
[67] Vojnik, "A magyar egészségpolitika kihívásai és prioritásai," 7.

Smart Vehicles on the Roads
Background, Potentials, Risks and Solutions

NAGY, ZOLTÁN - NAGY, ZSOLT - SCHLEINITZ, ISTVÁN - VEREB, ANDRÁS

ABSTRACT *This study presents the impact of infocommunications technologies (ICT) on the automobile industry with regard to motorized public vehicles, the technology and information background enabling such developments, including the potentials when domains with different focuses (ICT and vehicle manufacturing) meet, the potential risks, as well as risk mitigating solutions. Taking advantage of the diverse professional backgrounds of the authors, legal concerns also appear in addition to technical and information-related aspects.*

KEYWORDS *ICT law, connected cars, telematics systems, IoT, smart technologies*

1. Introduction

ICT, without exaggeration, has become the most notable and most relevant industry of economies,[1] and the impact IT has on everyday life and the development of other sectors is unquestionable. This development, taking very short time and being similar to motorization in its significance, has added new tones to the meaning of words like "intelligent" and "smart", which have become common attributes of a broad range of devices partially or entirely controlled, monitored and managed by infocommunications technologies, featuring added functionality, and new levels of quality and capacities. The heavily technology-oriented public vehicle manufacturing industry, living under the pressure of ever renewing public demands and consumer expectations, cannot say no to implementing ICT results, and connecting devices and systems has opened up new perspectives in the fields of vehicle operation, traffic, as well as the logistics of personal and cargo transportation with the potential to increase efficiency. Technological

[1] The European Union, considering ICT as one of the key drivers of economic increase, shares this opinion. See more in Communication from the Commission, *Europe 2020: A strategy for smart, sustainable and inclusive growth* March 3, 2010. (Brussels).

development, however, comes at the price of new threats and vulnerabilities imposed on users, which need to and can be handled using IT and legal apparatus.

2. What Makes a Smart Vehicle Smart?

You can find news in the media about the developments of autonomous self-driving vehicles and connected cars every day. This study primarily focuses on the connected car approach, albeit autonomous, self-driving vehicles also feature way many interesting potentials and possibilities worth investigating as well as technical, IT and legal peculiarities. Such vehicles are yet to mature or, more precisely, their penetration is currently limited owing, among others, to the lack of regulative frameworks. And this is not expected to change over the following 5-10 years, considering the specifics of the automobile industry, the length of development cycles, regulatory requirements and consumer habits; at least with regard to public vehicles. Narrowing the scope further, this paper focuses on public vehicles.

The phrase "smart vehicle" as a tech jargon or domain-specific term is, many times, used as a synonym for connected vehicles (cars, buses, trucks)[2] in both media contents and specialist literature. We, however, believe the set of smart cars is greater than that of connected cars, since each and every vehicle capable of providing interactive online connection (or data connection) is smart. At the same time, there are vehicles (for example, many of the mentioned autonomous self-driving cars) which use advanced ICT as part of their normal operation (because, for example, certain processes and controller parts are driven and managed by smart algorithms, making them capable of controlling themselves on their own), but not to connect to the external world or the ICT tools the driver has – that is, they are apparently operating in offline mode.

It is important to note that using information technology assets in vehicles is neither new, nor extraordinary. Control units have been driven by software for decades, which sometimes needs upgrades (when you visit the repair shop, and the engineer installs software), and networks connecting vehicle parts transfer signals and data. In-car communication has been around since the 70s; however, the volume and complexity of communication used to be much-much lower in the early days. Today's typical car offers numerous functional, safety and convenience features[3] to drivers and passengers, which are operated by a mass of electronic controls

[2] Hereinafter this category is referred to as connected cars.

[3] Without limitation, engine fuel supply, fuel compression, ignition, transmission chain, clutch, steering, braking, ABS, various stabilizer systems, tyre pressure, air conditioners, alarm systems, car audio, lights, electric windows, mirrors and even seat adjustment systems are all controlled by electronics.

communicating with each other, and many times transmitting signals which can also be interpreted using IT tools. While controller and signal transmission systems and transmission channels could be centralized in the vehicles of the 80s, and signal flow could be facilitated using point-to-point connections, today's vehicles and tractors, moreover, trailers and special machines feature distributed controller electronics and meters of thick cable bundles, due to the large number of such elements and the large complexity of the processes supported. The complexity of tasks for which these systems, called automobile applications, are responsible inherently yielded complex information exchange and complex data connections capable of facilitating such information exchange. The different functionalities are, moreover, often related to different data formats, data volumes, generation and consumption frequency and bandwidth demands.[4]

Communication over dedicated data connections and point-to-point connections became incapable of managing data transfer in even moderately complex control systems, and was replaced with serial bus systems. Bus systems, however, also proved to be incapable of serving increasing communication load at an acceptable speed, and of properly handling communication failures. Bosch GmbH decided to design a new bus system and network protocol in 1983 to address these problems. Its CAN (Controller Area Network) protocol was completed in 1986, and it became industry standard in 1991.[5] Today's vehicle may contain multiple CAN buses, serving as a communication platform for a mass of controllers and sensors.

CAN, also used in industrial automation systems, is a message-oriented[6] event-driven multi-master protocol[7] with support for a round-robin information exchange scheme, featuring reliable, flexible and fault-tolerant broadcasting. It handles conflicts consistently and in order of priority to ensure required, even real-time, data communications within the vehicle. CAN, in addition, enables nodes to submit so-called request-reply or query messages, which – beyond facilitating event-driven data exchange – ensures

[4] Differences are apparent not only in the functionality of automobile applications, but in transmission speed as well: a system transmitting signals for real-time intervention needs, evidently, a different level of bandwidth than an application responsible for some static functions.

[5] See the ISO 11898 standard family

[6] The message-centric nature means that the order of message transmission over the data bus is solely determined by relevance of the information conveyed in the messages. Priority is composed not only of participant nodes, but also labels indicating message priority.

[7] Multi-master design means that nodes are peers without hierarchy, each node can transmit messages on the data bus, provided that it is available, autonomously, without the help of other nodes. Failure of nodes does not block the operation of the entire network, only impacts its performance.

that a node (control unit) can request information from another one. The network architecture is designed in such a way that it does not need any central control unit to operate. Nodes are connected via the bus, which is an electric circuit consisting of a pair of wires, capable of detecting and remedying data transfer errors caused by electromagnetic noise. Its high reliability, suitability for real-time systems and its exceptional cost efficiency all helped the penetration of CAN.[8]

The CAN protocol is an important underlying technology for smart vehicles, including connected cars, just as the set of devices capable of decrypting communications transmitted over CAN, often encoded in different ways by different manufacturers and in different models of the same manufacturer. A similar, yet more restricted solution supporting relevant vehicle communications is OBD (On Board Diagnostics).[9]

OBD has also been around for decades.[10] It is the result of the need to manage vehicle equipment and parts, electronically connected to vehicles' central units, relevant for emission. Many-generation OBDs became the primary error diagnostic interface of vehicles, supporting detection and continuous monitoring of error symptoms related to connected equipment,[11] direct or indirect[12] storage of error codes, creation of snapshots of contextual parameters and later access via a diagnostic connector, giving feedback to the vehicle driver and mechanics and, from the 2nd generation, activation of the emergency program and operative functions to protect the engine. OBD is not suitable, or it is suitable only at the price of strict limitations, for displaying real-time information, and therefore it is generally considered not so smart as CAN, featuring fewer options for monitoring and intervention. Advantages include, however, simple access to data, and that information on

[8] It would be more precise to use present time here, since CAN technology is used in more and more domains, from medical and healthcare electronics, through robotics, to building automation.

[9] For an overview and comparison on how the two solutions can be used in vehicle IT, see: Zsolt Szalay, et al., *ICT IN ROAD VEHICLES - Reliable vehicle sensor information from OBD versus CAN, Models and Technologies for Intelligent Transportation Systems* June 03-05, 2015. (Budapest: MT-ITS)

[10] It has been mandatory to use the first generation of the system in the USA since 1988, and since 1996, each vehicle released to traffic anywhere in the world must be equipped with an OBD connector.

[11] OBD is responsible for health monitoring of the following processes and systems: combustion process (whether combustion is triggered), catalyzer activity, meeting rules in the compound mixing system, lambda probe (oxygen detection), operation of the secondary air system, leakproofness of the vapour prevention system, as well as the real operation of the exhaust return system.

[12] First generation OBDs store error codes in the memory of the electronic control unit.

operation errors of the connected systems can be retrieved relatively simply, without any special engineering knowledge.

The presented system components are responsible for making the data content in vehicles available, transferring those data within the vehicle to connected control units and interfaces, to make it available to access operational sensors of the smart vehicle or connected car, retrieving, storing and pre-processing data measured by those sensors, as well as providing means of intervention and reaction for the driver, the vehicle, mechanics, smart traffic infrastructure and other vehicles.

A data transmission and communications channel facilitating transmission of relevant data retrieved from the sensors to external parties outside the vehicle is also essential for the concept of connected cars, real smart vehicles and interoperating systems. Establishing such connections would not have been possible without the recent sudden development providing hardware or software gateways capable of connecting networks and performing data format conversions; or without the developments in wireless, mobile and satellite data transmission, the penetration of ICT and appearance of new-generation technologies,[13] the increase in network bandwidth and coverage, and the developments in Machine-to-Machine (M2M) data connections facilitating active communications between machines. Smart vehicles actively communicate with their environments, and therefore smart vehicles belong to one of the IT mega-trends of these days, the phenomenon of Internet-of-Things (IoT). Domain-specific language uses the terms V2V (Vehicle-to-Vehicle), V2I (Vehicle-to-Infrastructure) and I2V (Infrastructure-to-Vehicle) to represent the concept of M2M data connections.

Telematics is a frequently used term in the world of smart vehicles. Telematics actually refers to the combination of IT and telecommunications tools. Vehicle telematics includes all technologies mentioned as components of the connected car approach, from the individual sensors mounted in the vehicles, to the electronic infrastructure supporting driving, including the data transmission channels between those components. In short, vehicle telematics represents the concept of IT-driven control engineering. Many prefer to annotate vehicle telematics as an intelligent transport system (ITS).

Telemetry and telematics are different things: telemetry includes all data collector, transmitter and presenter systems which organize measurement devices and control units into networks, manage remote volume (quantity) measurements, and launch processes based on measurements.

Intelligent Transportation Systems are typically divided into three layers in the specialist literature: the vehicle itself (intelligent vehicle systems (IVS) primarily focusing on road safety); ITS1 systems responsible for

[13] Though data could as well be transferred over 4G and LTE networks, such data (consisting mainly of geolocation data) is currently typically transmitted over GPRS.

information transmission (basically including communications of vehicles conducted with each other and GPS devices); and the ITS2 systems with the purpose of efficiency optimization (when vehicles communicate with some central unit, too).[14]

The concept of Intelligent Transportation System is present in the normative documents of both European Union and Hungarian regulations. Directive 2010/40/EU of the European Parliament and of the Council on the framework for the deployment of Intelligent Transport Systems in the field of road transport and for interfaces with other modes of transport was approved and published on 7 July 2010. The directive declares that traffic control, mobility management and the connection between various transport modes (multimodality) benefit the most from intelligent transportation systems including traffic infrastructure, vehicles and users. The EU views ITS as a collection of advanced applications integrating IT and telecommunications technologies into transportation planning in order to help improve the safety of road transport and the mobility of passengers and cargo, reduce the environmental footprint, efficiently and effectively achieve goals of transportation, as well as achieve top-level social or economic goals, such as effective operation of internal markets, competency increase and increase in employment. In addition, the EU lists a few applications and connections as focus areas within ITS – these include applications related to optimally using road transport, traffic and travelling data; the continuity of traffic and cargo control services; road transport safety and accident prevention; and finally applications related to connecting vehicles to transportation infrastructures.

The mentioned directive on the framework for the deployment of Intelligent Transport Systems in the field of road transport and for interfaces with other modes of transport has been implemented in Hungarian legislation in the form of the NFM (Ministry of National Development) Ministerial Decree 48/2012. (VIII. 23.) about general conditions of development and operation of intelligent transport systems and services, as well as about their interface to other transport modes.[15] The decree took the definition of ITS and the set of focus areas over from the directive without any changes. According to its wording, the purpose of ITS services is to inform users to support their safety, efficiency, comfort, as well as to increase the ease of travelling and to harmonize different transportation networks. Points a) to k) of Article 4 of the decree specify requirements of ITS systems, with points a) and b) having relevance in the scope of our

[14] See: Nikolett Pézsa and Piroska Ailer and Balázs Trencséni and László Palkovics, "Közlekedési rendszerbe integrált alternatív járműhajtások" *A jövő járműve* 1-2 (2011): 6

[15] The study focuses on the relevant Hungarian and EU regulations. The acts and decrees mentioned in the study are sources of Hungarian law.

study. According to these points, ITS systems shall support decreasing traffic congestions and emission, as well as support increasing energy efficiency, a higher level of safety and protection and, finally, they shall support cost optimization. The legal standard touches on the most relevant legal aspect of connected cars, also discussed in our study, the concerns of privacy. Article 6 (1) declares that the so-called Info Act, Act CXII of 2011 on the Right to Informational Self-Determination and on Freedom of Information, as well as Act C of 2003 on Electronic Communications shall govern data controlling related to ITS applications and the operation of ITS services.

3. Possibilities and Areas of Use

Possibilities in the phenomenon of IoT as well as in telematics and connecting vehicles to networks may revolutionize road transportation. The current relevance of connected cars as an area of development is clearly reflected by the fact that apart from fleet management providers inherently present in the market (TomTom Telematics, MiX Telematics, Fleetmatics, Qualcomm), big automobile manufacturers such as BMW, Daimler, Bosch and Continental; big telecom players like Vodafone, T-systems, Telefonica and AT&T,[16] as well as IT giants like IBM and Google are actively looking for entry points into this market. These initiatives, usually relying on V2x and x2V communications platforms, have not yet come to a breakthrough, and, up to date, typically focus on geolocation possibilities and basic telematics services. Current developments are aimed at measuring relationships between fuel consumption of internal combustion engines and driver behaviour, at measuring emission, at providing entertainment and convenience features (collectively called infotainment), at property safety systems, at fleet management, at insurance bound to actual vehicle use, as well as at traffic control.

The following provides a short selective overview of the possibilities found in smart vehicles and telematics, as well as of the potential areas of use. It is important to note, connecting to ITS is not an exclusive privilege of owners of brand new vehicles with factory support for connecting to networks. There are numerous devices, software and algorithm using the discussed CAN and OBD technologies to enable vehicles of previous generations and vehicles of current generations lacking built-in interfaces to be connected to networks. Such vehicles are called retrofit connected cars.

Warranty concerns are of central importance in the case of retrofit systems, and may also influence the penetration of the technologies. Usually

[16] See Telefonica Connected Car Industry Report 2014, http://pressoffice.telefonica.com/documentos/Telefonica_Connected_Car_Report_Digital_Version_2014_FINAL.pdf accessed July 28, 2015.

the two forms of warranty, one implied by regulations and the other based on the liabilities undertaken by vehicle manufacturers or distributors in the corresponding agreements, exist parallel to each other for consumer durables, which include vehicles, and represent significant value with regard to the maintenance and repair costs of vehicles. Automobile manufacturers often view warranty as a sales incentive, and warranty liabilities are usually subject to a fixed term or mileage. Authoritative regulations declare that warranty providers (the manufacturer or distributor providing such services) are exempt from their warranty liabilities, once the failure, error or other fault is proved to have been generated or to have appeared after proper performance of the agreement.[17] Failures resulting from post-purchase changes made to vehicles are, evidently, failures generated after proper performance. In addition, warranty statements and purchase agreements typically include provisions explicitly stating that changes made to vehicle equipment shall be considered as intervention made by the beneficiary of the warranties, and as such, such changes terminate and cancel warranty.

Devices pluggable into the OBD connector and capable only of reading data shall not result in the mentioned warranty issues, however the beneficiary may be required to certify by providing some proof that the device in question, mounted after purchase, is incapable of influencing the operation of the vehicle or performing control engineering interventions. Making use of vehicle sensor data available on the CAN bus, though more complex, offers more advantages and higher quality services. CAN data can be retrieved by wire tapping the cables of the bus and decrypting information. Cutting cable coverings, however, will result in loss of warranty in most cases, which most of the connected car interface providers will not undertake or take over. There are, however, technical workarounds making it unnecessary to take the risks. You can find contactless devices on the market which can retrieve the information conveyed over the wires without the need to cut cable coverings.

These have made basic telematics services (including location sense, vehicle tracking, route planning and fuel consumption metering), which we can call first generation applications for connected cars, broadly available. Applications designed for the same set of goals may be significantly different from each other, and there are, of course, large differences in the quality and feature set of services and devices between telematics service providers, their services and the devices.

The benefits of connecting cars to networks have been first realized by organizations, providers and logistics companies operating multiple vehicles and fleets, and therefore the penetration of such systems is currently the largest in these segments. Providing basic level services is a fundamental requirement against almost all fleet management systems. Location sense

[17] See Section 171 (1) in Chapter 6 of the Civil Code

and vehicle tracking primarily serve purposes of safety and security, the purpose of protecting expensive vehicles and, in certain cases, the cargo transported. In addition, such systems also help to increase the driver's safety, and to locate the vehicle quickly in case of emergency.

Cost-effective vehicle operation is a key to providing competitive services. Two key drivers for cost-efficiency include optimizing fuel consumption and careful planning of routes and maintenance. Fuel consumption evidently depends on several factors. In case of connected cars, influencing driver behaviour (eco-driving) is to be highlighted, which promotes efficient and environment-friendly driving. Modern mobile communications technologies, mobile phone penetration and the mass appearance of applications, often being platform-independent, made eco-driving applications easy to access for drivers. Not a single smart application can be efficient enough, though: efficiency also requires the ability to communicate with that specific vehicle and receive its data, as well as to process and evaluate current vehicle attributes in real time.[18] Precise and unbiased remote measurement of fuel consumption up to millilitre precision and adjusted to workflows can also support value-added features for fleet operators, such as diminishing or eliminating chances for fuel manipulations, or calculating driver bonus-malus. Fleet operators can use telematics relying on certified devices to make decisions based on certified measurements in their role as employer, according to employment codes. Such telematics and the underlying certified devices, in addition, enable legislators to simplify regulation on tax relief, set forth in Section 7 of Act CXVII of 1995 on Personal Income Tax.

Optimizing transport and route planning, schedules and cargos comprises fundamental transport engineering and logistics tasks. Connected car technologies can support such tasks by means of providing information services. It is easy to understand the importance of optimizing essential social services like patient transfer and public transport. Connecting vehicles to networks, performing automated dynamic prioritization and assignment of transport tasks by algorithms using real-time data, getting to know free capacities, as well as current and precise health data on vehicles directly help to protect the lives, health and economic interests of citizens. Connected car technologies obtain real-time vehicle health data from OBD and, primarily, the CAN bus, and evaluating such data enables unbiased planning of maintenance events, as well as early detection or even prevention of failures. Vehicles will be able to automatically report failures to repair shops in the future, requiring no human interaction, and upon synchronizing with other

[18] Really effective and fuel-saving driving depends on several factors. In addition to current vehicle health, the vehicle's current mass, environmental factors and pavement quality are also to be considered, just like throttle intensity, suitable gear ratio and gear, and braking intensity and mode.

devices of the driver, they could even schedule the visit to the repair shop for the required operations, and they can autonomously execute all the paperwork like filling out technical certificates.

Optimizing fuel consumption influences the level of emission, on which vehicle diagnostic solutions primarily rely. Connected car technologies make it possible to unbiasedly measure individual emission levels of vehicles. Another possible area of application consists of adaptive driver assistance, accident prevention and situation analyzing systems, which could collaborate with onboard safety electronic units to detect situations or patterns threatening with an accident. In addition to supporting safe driving, a potential commercial application of the connected car concept would support the penetration of the so-called pay-as-you-drive insurance policy.

A trivial area of application is to push in-car entertainment units (infotainment systems) one level smarter by making internet content (web radio stations, video streams, connected media and other contents) and mobile apps similar to those on mobile communications devices available. These units in future vehicles will, presumably, support not only quick access to information, but they will also advance to the role of a wireless communications centre of the vehicles, and they will become fully featured extensions of the mobile devices of the driver and the passengers, as well as the primary voice command interface of vehicles.[19] Development of infotainment systems may, in response to changing consumer habits and the increased value of being able to personalize the user experience and the vehicle, help connected car technologies to become more popular and more broadly available.

Infotainment systems and connected car applications transmitting in real time the data of sensors detecting vehicle damages and failure likely to have been caused by accidents can provide feasible and promising scenarios for the concept of e-call systems, automatically initiating emergency calls in case of accidents. The final version of COM (2013) 316, Proposal for a Regulation of the European Parliament and of the Council concerning type-approval requirements for the deployment of the eCall in-vehicle system and amending Directive 2007/46/EC of the European Parliament and of the Council on establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles[20] decided that, starting from October 2015,

[19] This was the specific area of application stimulating big mobile communications platform vendors (Apple, Google) to enter the segment and to develop their vendor-independent platforms.

[20] Directive 2007/46/EC of the European Parliament and of the Council of September 5, 2007 on establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (Framework Directive)

constituent systems, parts and independent technical components of new passenger cars and light commercial vehicles subject to the directive, and for which the required activation mechanism already exists, can only be registered, sold and merchandised in the member states of the European Economic Community if containing the e-call system. E-call systems not only indicate the event of the accident to the unified European emergency call centre, but also provide a minimal set of information, such as the location and time of the event, and the information describing the vehicle type. In order to give expression to the importance of privacy, the directive requires technologies facilitating protection for private information and personal data to be integrated into the e-call system, which protect users to the required extent, and provide eligible guarantee against monitoring and abuse.

Furthermore, connected car technologies can significantly help route-planning systems relying on traffic information, foster the development of real-time and multimodal traffic information services, support authorities taking measurements on the scenes of transportation (inspections and investigations), and make it possible to measure operation efficiency of specific superstructures and adapters.

4. Challenges

Just as with all IT-based technologies, managing threats ICT systems are subject to shall be discussed in the case of connected cars. From the aspect of IT security, connected cars are similar to industry control systems. Telematics systems, networks and the data collected, processed, stored and transmitted in and by them shall, similarly to "traditional" IT devices and networks, be protected against illegal physical and logical access, intentional and accidental manipulation, dismissal and damage, and manipulation, dismissal and damage caused by technology failures.

Complexity of telematics systems, the unbalanced level of protection of vehicle systems and infrastructure components constituting the system, and the expectedly large number of vulnerabilities popular operating systems, applications and their vehicle versions will be subject to increase the risks. According to press releases, vehicles are no more protected against hacking and sabotage.[21] Observing what happens in the world of smartphones, the

[21] News reported in July 2015, two IT experts could take the control over a vehicle of a USA manufacturer via wireless channels and via its infotainment system, while the vehicle was in operation. Without diminishing the potential threat targeted hacker attacks against vehicles generate, it is important to note that only little information has been made available on the circumstances of this specific attack. For example, it is unknown whether attackers made any physical contact with the vehicle, accessed its OBD system or CAN network, or placed any device helping the

world must be prepared to stand the attack of viruses and malwares specifically targeted at intelligent vehicle systems. Development and penetration of connected car technologies, as well as how personal IT and mobile communications devices are used forecast that future users (drivers) will be able to upgrade the firmware of their vehicles over the air on their own, to install required fixes and patches, and to install various applications to personalize their vehicles. Missing to update systems (whether or not caused by user negligence), the fact that manufacturers may sometimes release new generation systems before they are mature enough to be released just to stay a leap ahead in the competition, the compatibility and system issues caused by updates all come at the price of the appearance of potential vulnerabilities already well-known in the world of IT.

Today's car thieves typically use notebooks to bypass electronic alarm and protection systems, therefore vehicle electronics and control units are strongly recommended to be protected, primarily for property security concerns, since the control units of some car makes can be manipulated via the OBD, using the corresponding manufacturer control codes.[22]

When it comes to aligning different technologies and devices, issues of compatibility (the ability of the connected devices to co-operate properly without modifications) and interoperability (mutual permeability and capabilities of data exchange) often arise. With regard to hazardous operations and road safety requirements, especially in the case of self-controlled systems, all such issues must be brought to a resolution for cases when vehicles connect to external infrastructures. This may, however, lead to situations when users and designers, similarly to the practice common in industrial IT systems, choose stable, but many times outdated software versions.

Warranty aspects have already been discussed in the study; however, a more important concern attracting our focus in the case of smart cars consists of the legal institution which may influence the penetration of such technologies. For systems involved in or affected by the controlling or processing of personal data, the top priority issue is privacy.[23] Act CXII of

attack in the vehicle. It is, however, suspicious, that infotainment systems are usually not connected with other systems of the vehicles, and especially not with their transmission chains.

[22] For further information see András Szijj and Levente Buttyan and Zsolt Szalay, *Hacking cars in the style of Stuxnet* (Budapest: Budapest University of Technology and Economics, 2015) accessed December 10, 2015, http://www.hit.bme.hu/~buttyan/publications/carhacking-Hacktivity-2015.pdf

[23] About the privacy issues of connected and autonomous cars see Dorothy J. Glancy, "*Symposium, Privacy in Autonomous Vehicles,"* 52 *Santa Clara Law Review* 1171 (2012) accessed December 11, 2015, http://digitalcommons.law.scu.edu/lawreview/vol52/iss4/3

2011 on the Right to Informational Self-Determination and on Freedom of Information (Info Act), defines personal data as data which relates to the affected person, or from which conclusions concerning natural entities can be drawn.[24] Various kinds of personal data may be generated during vehicle operation,[25] therefore privacy rights should be enforced for vehicles which can be bound or related to the person in question. In the case of extensive intelligent transportation systems, especially in the case of re-selling smart vehicles, another concern is the loss of rights pertaining to controlling personal data and the enforceability of the right to oblivion. ITS systems are practically systems facilitating automated data controlling, and therefore the information security provisions of Chapter 6 of the Info Act are applicable; that is, each and every technical and organizational measure shall be taken which is required to ensure data protection, with special regard to the actions listed in Article 7 (3) of the Act. The relevance of privacy has also been realized by the EU, and Directive 2010/40/EU, discussing ITS, declares that anonymization of data shall be stimulated as a principle respecting privacy. In case of privacy and data protection concerns related to ITS applications and services, the Committee shall request the opinion of the European Data Protection Supervisor or, with regard to processing personal data, the Working Party[26] - established by Article 29 of Directive 95/46/EC on the protection of individuals with regard to the processing of personal data and on the free movement of such data - focusing on the protection of individuals within aspects of processing personal data.

Another concern in addition to privacy is the issue of responsibility.[27] Vehicle operation is classified, according to the Civil Code of Hungary, as an apparently hazardous activity, while the vehicle itself is equipment performing hazardous operation. Damages and losses caused by vehicle operations are provided for in Section 6:535 of the Civil Code. Section 6:536

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and William J. Kohler, and Alex Colbert-Taylor, "Current Law and Potential Legal Issues Pertaining to Automated, Autonomous and Connected Vehicles," *31 Santa Clara High Technology Law Journal* 99 (2015) accessed December 11, 2015, http://digitalcommons.law.scu.edu/chtlj/vol31/iss1/3

[24] See Article 3 of the Info Act

[25] Vehicle electronics systems measure, for example, the weight of passengers in order to properly activate emergency response systems, such as airbags. The most evident personal data, however, is the location of the passengers.

[26] Working Party 29, named after the article establishing it, is an independent advisory, expert and consulting body committed to protecting individuals with regard to processing personal data. The body releases resolutions to develop the authoritative field of law.

[27] About the liability aspects of connected cars see Alexander P Herd, *R2DFord: Autonomous Vehicles and the Legal Implications of Varying Liability Structures* (ExpressO, 2013) accessed December 11, 2015, http://works.bepress.com/alexander_herd/1/

(1) sets forth the operator party, i.e. the party performing the apparently hazardous activities, is the one in the interest of whom or for the benefit of whom the hazardous operation is conducted. That is, responsibility shall be taken by the operator under the governing law, even if the vehicle makes decisions partially or entirely in an independent and autonomous manner. Operators may claim compensation for the damage and losses related to autonomous vehicles against the manufacturer or distributor according to the general provisions of the Civil Code. The liability of manufacturers and distributors shall be extended to the IT security compliance of systems, as well losses from failure to comply.

V2x and x2V systems are governed by telecommunications regulations, similarly to other telecommunications systems. It is a rather interesting question, unfortunately extending beyond the scope of this study, how consumer rights pertaining to telecommunications services and measures related to national security interests can be enforced with regard to ITS systems.

5. Summary

Applied ICT and telematics open up new perspectives, and add significant values for automobile industry players. The concept of connected cars, building on several-decade-old technical fundaments, combined with implementing state-of-the-art IT developments can be used and applied in a wide variety of areas, and it produces competitive advantages for its users even in its current form, considered not yet matured in some respects.

Technological development implies great possibilities, but at the price of material risks, for which technical, IT and legal responses have already been worked out in part. The long-awaited revision of privacy regulations by the European Union, and the approval of the new, technology-independent decree may make a clean slate for connected cars and several other areas as well.

Declaration of death procedures initiated by Holocaust survivors after World War II in Hungary

NATHON, NATALIE

ABSTRACT *The paper deals with an overview on the death declaration procedures initiated by Holocaust survivors after World War II in Hungary. The analysis of that type of civil procedure will concentrate on the relevant regulations, case-law, the relevant legal literature, publications and guidelines in force between 1945 and 1948.*

KEYWORDS *Hungary, World War II, 1945-48, civil procedures, death declaration procedures*

1. Introduction

Every war has its victims, its losers and winners, but World War II (WWII) was unique from several points of view; the human loss and tragedy is still unbelievable, even after more than seventy years. The end of war generated a relief worldwide, but the difficulties, changes, troubles and the chaos just started in Western and Eastern Europe. And problems always start with judicial procedures.

In 1945, the reconstruction of Hungary, that of its political and economic system, the establishment of the rule of law and the revival of the judicial system meant a long process, which finally couldn't reach its goal. The aim of the present study is to give an overview with relevant cases of a particular type of civil procedure, which was frequently initiated between 1945 and 1948 by Holocaust survivors, they were the so-called procedures of death declaration. Those "less" interesting and spectacular procedures were very important in the daily life of the survivors and until now they have not been researched thoroughly in Hungary yet.

It should be noted, that many of the civil procedures which started in 1945 lasted until 1953 or were closed even later,[1] or they haven't been resolved at

[1] Reading these cases we can not only have an idea about the on-going litigations of that time but also of the several unsolved problems regarding personal matters and legal status well after the war ended, sometimes more than ten years passed and the cases had not been solved. This long period of time impeded the start of a new life and extended the grief. An interesting example is case 20/633/1957 (June 27 1957,

all: those procedures were constantly confronted with new regulations, new laws and new policies, and we should not forget about the general negative public opinion and attitudes which impacted those procedures either.

2. Jewish Holocaust survivors and Hungary's attitude towards them

The Hungarian Holocaust was survived by 260.000-285.000 Hungarian Jewish citizens of the approximately 840.000 citizens living in the enlarged territory of Hungary between 1938 and 1945, that is about 60% of the Jewish population perished during WWII, 40% of the population in the capital (Budapest) and 79% in the countryside. According to the census of 1945/46 the Jewish population amounted to 165.330 persons.

Already in 1944, the provisional government declared the abolition of all legislation concerning Jews, and consequently on March 17, 1945 the Prime Minister's decree 200/1945 was adopted, which repealed all anti-Jewish legislation enacted during the Horthy era (1920-44). In addition to re-establishing civil rights and legal equality of the Jews, the government adopted several laws and decrees to ameliorate the survivors' economic condition. It mandated the return of properties, such as shops, offices, apartments, and personal belongings; under certain circumstances they could have had reclaimed agricultural lands and forests as well.

All regulations and decrees that have been passed since the liberation of Hungary are plenty in number; some 200 different ones have been published in the *Official Journal*. "The authorities concerned met considerable difficulties in the practical application of these regulations called forth in order to repair grievances caused by fascism. The difficulty of getting a survey of these decrees has become unsurmountable just for those in whose interest they have been passed: persons that had been deported or as slave-laborers' return from captivity – whereas the purpose was to restore these people to their rights".[2]

Survivors, deportees and family members of the deceased wished to continue or restart their life as soon as possible. They wanted to participate in the rebuilding of the country and help its reconstruction, but in the meantime they also wanted to restore and revive from the remains which they had lost: their life, their profession, and their properties. In order to succeed in these, a

In: A Magyar Népköztársaság Legfelsőbb Bíróságának irányelvei, 1988) which concerns litigation between neighbours on the construction of a new house. The description of facts starts as follows: „in 1950 the claimant built a house on the disappeared husband's land – while the husband had not been declared dead yet (…)".

[2] Letter from Dr. Andrew Friedman to the American Joint Distribution Committee, *Re: Declaration of decease and legacy decrees.* January 8, 1947.

long way and a painful road waited for them, with as many difficulties and obstacles as it is imaginable.

3. The procedures regarding the declaration of death

Declarations of death have always been considered an exceptional and merely subsidiary method of legally ascertaining and establishing a person's death. The death of a human being ordinarily occurs under circumstances which enable other persons, and especially the appropriate authorities, to establish death with logical and legal certainty. However, especially the 20th century created a new situation and as a consequence a legal uncertainty. After World War II, declarations of death, formerly an exceptional and extraordinary method of legal casework have become, in an unprecedented manner, the means by which the deaths of millions of people are established and the legal relations and interests of other millions ascertained. Responsible for this trend are the total war with its air raids and mass killings and the fury of totalitarian governments, which have often consigned their opponents to the fate of concentration camps, mass deportation and mass extermination.[3]

After WWI the huge number of fallen soldiers raised several legal questions, as no previous laws and case-law were available, and declaration of death procedures due to war had never been initiated. The war established a mass procedure from a rare type of procedure, where the only precedents were the procedures held after the Franco-Prussian War of 1870-71. It should be emphasized that those procedures were mostly *military procedures*, initiated by the family, the Red Cross or others to determine the death of a soldier.

The rules laid down at the beginning of the 20th century, the influence of the German,[4] Austrian[5] and French regulations, and the laws published after WWI, as well as the case-law were applicable after 1945 as well, this is why we shall recall this period to understand the procedures held between 1945-48.

Those procedures for the declaration of death had primordial importance in connection with matrimonial relationships, the determination of the legal status of legitimate and illegitimate children, the clarification of the land

[3] Andrew Friedman, "Declarations of Death - A New International Convention", *St John's Law Review*, Volume 25, Issue 1, (December 1950)

[4] Germany was the first country which recognised the importance of a special legal instrument that regulates the declaration of death procedure in wartime. Its first promulgated law was the Bundesratsbekanntmachung über die Todeserklärung Kriegsverschollener vom 18. April 1916.

[5] Austria promulgated its law on March 31, 1918 (Gesetz über die Todeserklärung von in dem gegenwärtigen Krieg Vermißten vom 31. März 1918, RGBl. Nr. 128, nebst der Verordnung vom 8. April 1918, RGBl. Nr. 134.)

registry situation, the determination by a Court or by an authority of the pension (military or civil) of widows and estimation of children allowance.

In 1945, at the end of the war, the number of missing persons in Europe alone amounted to several millions. Many of these lost their lives in the course of military actions and air raids, but a vast number were victims of the anti-Jewish extermination policy pursued by Germany and its allies. Mainly because of the experience of WWI, many countries had already legislation in force under which missing persons could be declared dead, but the specificities of the war obliged the countries, including Hungary, to continuously amend their existing laws or replace the laws by new legislation in order to enable these countries to cope with the unprecedented state of affairs brought about by the events of 1939 to 1945.[6]

4. The rules, norms and principles of the procedures regarding the declaration of death

The Hungarian material and procedural law of death declaration had two legal sources: Law I. of 1911, §§ 732-748[7] (Law of 1911), and decree No. 28.000/1919 of the Ministry of Justice on the declaration of death[8] of those who disappeared during the war. Decree No. 28.000/1919[9] (Decree of 1919) is considered as a special legal instrument and a supplementary regulation: it is applicable only to those (soldiers or otherwise determined persons) who disappeared during and in connection with the world war. The Law of 1911 remained in force and was applicable also for the procedures initiated after WWII.

[6] European Legislation on declarations of death, compiled by the Office of General Counsel (European Headquarters, American Joint Distribution Committee) (January 1, 1949).

[7] A polgári perrendtartásról (Pp.) szóló 1911. évi I. törvénycikk (Law regarding the procedures in civil matters).

[8] It was annulled by the decree No. 4700/1946 (Decree on the declaration of death of a person disappeared during mortal danger (*Rendelet az életveszélyre utaló körülmények között eltűnt egyes személyek holtnak nyilvánításáról*) of the Prime Minister, which entered into force in April 28, 1946 (Official Journal, 1946. No. 96.). This decree rules on the declaration of death of civil persons, who disappeared after June 26, 1941 but before the liberation of Hungary in life-threatening conditions. It concerns also those who were taken to forced labour and disappeared after March 19, 1944 and before the liberation.

[9] Hungary, as many other countries enacted special statutes after events involving mass-disappearances, under which missing persons could be declared dead by simplified proceedings and after shortened periods of absence and of public notice. The main purpose of such rules was to avoid a protracted period of indecision regarding the fate of marriages and estates in the great number of cases where disappearance in war probably ended in death.

A decision on the declaration of death is issued in case a person disappeared during the war and an appropriate procedure was conducted. Those who had legal interest could initiate the procedure (spouses, heirs, anyone having a legal interest in such a declaration, and the Public Prosecutor). According to the case-law of the Court of Appeal of Budapest, the former wife of the deceased has legal interest in initiating such a procedure if she wishes to have a religious marriage again.[10] This later judicial practice after WWII was important especially for the female members of the Jewish community, to be released from their marriage (*agunah*).

The Court having exclusive competence for rendering such decision was the district Court where the disappeared person had his last domicile, permanent residency or if it was not available, where he had property. If the later was not applicable, the Central District Court of Budapest had competence. The date of death had to be determined based on the evidence and probability and it was presumed that the person disappeared on the date which the decision determined. In case of doubt there was always a possibility to request rectification (it was subject of several appeals in a significant part of the procedures held after WWII). The case-law also provides, that "the fact that the person declared dead didn't die on the day that the decision determined, cannot only be proven [rectified] in the frame of a special procedure [we shall include appeals here as well], but it is possible to submit it in another procedure as well [as for example inheritance procedure]".[11]

In the case of death declaration, there is a presumption that the disappeared person didn't live further than the date determined in the death declaration decision. Such a presumption of death is not the consequence of the decision but of the facts on which the decision is based; thus in case the disappeared person stayed alive, the decision itself effectively doesn't terminate the marriage, but the marriage is terminated by the presumed death of the disappeared person, which is certified by the decision until this presumption is rebutted.[12] It should also be noted that according to the legal practice, if the spouses of a person declared dead remarry, such a new marriage dissolves the former marriage.[13]

[10] Budapesti Tábla (III:937).

[11] Decision P. I. 2492/1928., in: Szladits-Fürst, *A magyar bírói gyakorlat* (Magánjog, 1935), 157.

[12] Decision P. III. 4838/1931 and P. III. 619/1932., in Károly Szladits, "Magánjogi Döntvénytár" Volume XXV *Jogtudományi Közlöny* (1933): 119.

[13] Letter from AJDC Paris - Office of General Counsel to Mr. Eli Rock, Re: OGC/DCO/103/Documentation, Declaration of Death Surveys - Radd - 104., September 29, 1948.

The request for declaration of death shall contain all relevant information, including the evidence of the legal interest, and all facts concerning the name, date/place of birth of the disappeared. The name and address of the disappeared person's parents, spouse, children etc., the profession of the disappeared, last address and especially if he has movable or immovable property, and if yes, where. As the rules concerned only soldiers after WWI, all relevant information (including the letters sent to the family) regarding military service, or any notice from the army, medical institution or the Red Cross had to be submitted. After WWII such information also had to be given as whether the disappeared had performed military service or was on forced labor.

During the procedure, the Court was free in its absolute discretion to assess the value to be given to the whole of the facts and evidence which had been submitted to it. During the procedure, a public announcement was displayed on the notice board of the Court for sixty days, later on for thirty days and in that city or village, in which the Court had territorial jurisdiction. The aim of the public announcement was to summon the missing person, as well as any person having information to the effect that the disappeared person was still alive, to notify such information concerning the survival to the Court or to the nominated guardian. The Court could order the repeated display of the announcement.

The applicant shall also have published the announcement in the *Official Journal* at its own costs (all costs relating to the procedures were borne by the applicant) and submit a copy to the Court. Having the deadline passed, and having weighed the evidences and facts, the Court made a decision by issuing an order concerning the determination of death. Also after the expiration of the waiting period, the applicant had the possibility to request the Court to set a date for the hearing of the case. During the hearing, the applicant and witnesses, too, could be heard and had the possibility to submit further evidence.

The submission of an appeal was possible by the person who had legal interest in the proceedings; the applicant could submit against the decision of the Court an appeal for amendment or annulment in case e.g. the disappeared person was still alive or was dead before or after the determined date, or the declaration shouldn't have taken place because the disappeared gave a sign of life, or another date of death should have been determined. The appeal was submitted to the district Court and was decided by the Supreme Court (*Kúria*). Having closed the case, the Court sent a copy of the decision to the Court having competence in inheritance procedures and to the Registrar.

In case of a declaration of death, it was presumed that the death *de facto* occurred on the date which the decision determined. The commentaries and case-law also mention that in some cases the hour and minutes could also have been relevant, thus the exact date of death is 12 am on the day, which was determined the day of death.

Regarding the appreciation and consideration of the evidence by the Court, it should be noted that it could be disregarded in case the applicant enclosed to the request a certificate issued by the Red Cross or the Ministry of Defense, which stated that the civil person disappeared after June 26, 1941 but before the liberation of Hungary in life-threatening conditions or the person who was taken to forced labor disappeared after March 19, 1944 and before the liberation. As already mentioned previously, the Red Cross was involved in these procedures: it provided information, data and evidenc. The Red Cross also had legal remedies and the right to submit an appeal based on the general interest against the decision of the Court.

As it can be seen from the above, although there were detailed legal instruments in force and applicable, the end of WWII created a new situation and the impossibility to apply these laws and regulations to cases which did not fit into the framework of the summarized provisions. The legal system was two-faced, the old laws were still in force, and new regulations were continuously being adopted, based on the need and adapted to the new conditions. Laws, decrees tried to be flexible, but as time passed and the political situation changed, there was a strong intent to close all procedures as soon as possible, and put an end to litigations relating to the war.

The uncertainty about and the importance of these procedures can be found in the communications of the Hungarian News Agency, called MTI (*Magyar Távirati Iroda*). Its first article on the procedure is dated April 3, 1946 with the title "Who can be declared dead?".[14] It deals mainly with the draft of the decree No. 4700/1946, and the importance of the new legislation. It should be stressed that this decree concerned civil persons and those who had been sent to forced labor. According to this communication, many Hungarian had disappeared during the war, and it is probable that among the disappeared, many were not alive anymore and those who were alive, were probably not capable to give any sign of life. Nevertheless, it was important not to declare falsely the death of a person, and the authorities were to take any steps to avoid it.

On May 10, 1945 the Office of People's Care (*Népgondozó Hivatal*)[15] was established under the supervision of the Ministry of Interior, which functioned until June 27, 1946.[16] The Office's activities[17] included the

[14] Magyar Távirati Iroda, 1946. április 5., 15. óra 15 perc, 31. kiadás „Kiket lehet holttá nyilvánítani?" (source: Magyar Országos Levéltár)

[15] Decree No. 1710/1945 M. E. of the National Provisional Government establishing the Office for People's Care.

[16] It's functioning was terminated by the decree No 7.310/1946. M. E. (Published on June 27, 1946 in the Official Journal No. 143.).

[17] § 1: „For the administration of the tasks connected with persons fleeing or expatriated to Hungary, the settlement and provisioning of people who are mentioned by the armistice concluded on 20 January 1945 in Moscow [http://avalon.law.yale.edu/wwii/hungary.asp#art1] … and the expulsion of fascist

repatriation and care of Hungarian deportees, as well as the certification[18] of the existence of the conditions for the death declaration.[19] After the Office's activity was discontinued, its tasks were divided and transferred to several ministries. Although the decree is not clear in that point , the functions concerning the taking care of the deportees (which is not mentioned *expressis verbis*) were apparently transferred to the Ministry of Welfare (§ 2 of the decree No. 7.310/1946).

Another organization involved in the registration of the survivors, deportees, and victims (thus helping the relatives, heirs to initiate death declaration procedures) was the National Committee for Attending Deportees (Deportáltakat Gondozó Országos Bizottság, DEGOB).[20] We shall also mention the certificates or justification issued by the Red Cross as well, although according to the decree No. 4700/1946, the duties of the Red Cross and other authorities regarding the death declaration procedures were taken up later on by the Ministry of Defense and the Office of People's Care.[21]

Regarding the death declaration procedures, the newly started legal journal *"Jogtudományi Közlöny"* in 1946 treats this topic frequently and it points out the problems of inconsistency, gaps, and contradictions, too. Already in 1946, after the entry into force of the mentioned Decree No. 4700/1946, the question arises regarding the absence of the determination of the date of the death. According to § 734 of the Law of 1911, "[i]f the Court makes a declaration of death, it shall determine as the time of death that day on which, according to the evidence produced in the proceedings, death probably occurred". What happens if no evidence, information is available which makes the date of the death presumable? According to DR MIKSA TELLER it should have been known that there was a gap in the decree, since

Germans the ministry sets up an Office for People's Care". The headquarters of the Office are in Budapest.

[18] The issuance of those certificates were duty-free (*see* § 5 of the decree No. 4700/1946).

[19] See also decree No. 4700/1946, § 1 (3), which states that there is no need to submit further evidence during the death declaration procedure in case the applicants produce a certificate issued by the Ministry of Defence or the Office for People's Care during the procedure which states that the person disappeared in life-threatening conditions as a civil or during forced labour as a person performing auxiliary service.

[20] The history of DEGOB (http://degob.org/index.php?showarticle=202) (retrieved on May 18, 2013): A registration system was put in place to document data on survivors and victims. As part of the process, all returning deportees and/or labour servicemen were asked to list the names of survivors who had not yet returned to Hungary, as well as data on those who had perished. By September 1946, some 30,000 "living" files had been compiled and by that time there had been around 120,000 files for the deceased as well.

[21] § 4.

regarding those who had been deported and those who had been sent to forced labor the date of death should be presumed based on the date of the disappearance, the date of the deportation or the date they had been put on the train, consequently their fate was unknown.[22] According to § 3 of the Decree, the Decree of 1919 and its subsequent modifications were applicable for the on-going procedures. This Decree states that the scope of the Decree concerns only soldiers who disappeared during the war and uniformly determines the date of death, as of December 17, 1917. The § 733(5) of the Law of 1911 was still applicable, which relates to persons who had been "involved in circumstances constituting a danger to his/her life".

We refer again to the findings mentioned above, according to which the Decree of 1919 is a special regulation regarding the claims of declaration of death relating to the World War, meanwhile the Law of 1911 rules on those situations which have no connection to the War. So it is understandable that there was uncertainty not only on the side of the applicants, their lawyers, but on the side of the Courts as well. In 1919 and 1946 the situation was totally different, during WWI it were mainly soldiers who had disappeared (the Decree of 1919 did not concern the civil population), in 1946, sometimes whole families had to be declared dead; how such an old legal instrument can be applicable in such circumstances? Families were separated, men, women and children lost each other, some were deported, and some were in hiding, some disappeared or died in the ghetto.

It shall also be noted that Hungarian laws had no dispositions or case-law for the case when several people died at the same time, during the same incident or if several members of the same family died at the same time, but on an unknown date. It was the duty of the competent Court to establish the facts and to determine for each person the date of his/her assumed death. That date was determined followed by the testimonies of witnesses or after the evaluation of the evidences, "such as the corpse was seen, or the body was sinking in water or there was documentary evidence that a building caught fire and no man escaped from it, etc."[23]

Whose family inherits, who died earlier? The wife or the husband? Which family is eligible to the inheritance if there is no descendant? The regulations did not take into consideration that those cases had real people, real tragedies, and real uncertainty behind. Not to mention that those uncertainties slowed down the procedures laszing for years and years.

If during the death declaration procedure the witnesses declare the same date for the death of several persons or several persons disappeared at the same time, the Court will determine one and same day for all of them. In the

[22] Teller Miksa, "A holttányilvánítási eljárást szabályozó rendelet hézagai" *Jogtudományi Közlöny* April 30, (1946): 107.

[23] Letter of Andrew Friedmann to Dr George Weis, the General Counsel of the American Joint Distribution Committee, January 8, 1948.

context of such specific situation, such as the aftermath of Holocaust, the law created the possibility to facilitate the initiation of the inheritance procedure, as in the Hungarian law, only the survivor may inherit and if the same date is established as date of death of several persons, neither of them may inherit from each other. As ANDREW FRIEDMANN mentioned in its letter to DR GEORGE WEIS, the General Counsel of the American Joint Distribution Committee on January 8, 1948 "(…) this regulation does not work well in practice, with view to the fact that entire families of this country [Hungary] perished, e.g. one in forced labor service, the other in Auschwitz, again others were murdered by the arrow-cross bandits in Budapest or perished in German KZ camps and the fate of great fortunes may depend upon the fact which of these people died first and who died latest, as the legacy will pass to the survivor" and "it is quite frequent that the inheritance of a person depends on the inheritance of its relative who also got lost. In such cases the surviving members of' the family wait till the person from whom their lost relative would have inherited, is declared dead and when this person is declared dead with a certain date they produce evidence that their relative who - if surviving - would have inherited after died later and by this they decide where the legacy will fall. Of course, it is very difficult to fight this anomaly".

An example for that matter of fact was a case which started at the district Court of Bácsalmás,[24] the main procedure was initiated in Bácsalmás on September 29, 1947. Applicants, R. MIKSA and R. VILMOS requested the issuance of the declaration of death of F. ÁRMINNÉ and others. There was an intervener in the procedure, namely S. GÁBOR, who questioned the determined date of the declaration of death of his wife and two daughters, all perished during the war.

During the procedure, applicants submitted evidence which certified that the above mentioned three persons (the family of S. GÁBOR) had been deported to Auschwitz and they were immediately massacred. The Court listened to the testimonies, appreciated the evidence and the available documents. All witnesses of applicants were together in the ghetto of Bácsalmás with the family of S. GÁBOR. According to the witnesses, a part of them were transported to Topolya, but the S. family wasn't among them. Other witnesses testified, that following the dissolution of the ghetto, the remaining persons were sent to Auschwitz, with the exception two wagons, which stayed in Kassa. Several persons testified that S. GÁBORNÉ and her daughters were placed on the train, but none of them was seen later on. Some of the witnesses were of the opinion that because nobody had seen them, they were killed probably as soon as they had arrived to the death camp.

[24] Decision No. Pk.4733/1947-22 of July 8, 1949. Submission of appeal before the Kúria (Supreme Court): July 20, 1949 (case No. Pk. III. 4019/1949). The decision of the Kúria is dated September 8, 1949.

The testimonies contained many controversies (as e.g. that at different time and places, the members of the S. family were seen between June 1944 and April 1945). The Court, having evaluated and appreciated all information, concluded (although it is difficult to understand how exactly the Court reached that conclusion, it probably based its conclusion only on the testimonies) that S. GÁBORNÉ and S. MAGDA were alive in January 1945 in Marienbad and S. HEDVIG was alive in April 1945 in Penningen. The Court stated that as there was no information as to what happened to them after the above determined date, the day of disappearance should start from the above date, thus the day of death in case of S. GÁBORNÉ and S. MAGDA is February 15, 1945 and in case of S. HEDVIG it is May 15, 1945.

As the intervener didn't agree with the date of death determined by the district Court, he submitted an appeal – regarding the rectification of date – to the *Kúria*. His main concern was to prove that his wife and daughters died later than the date which was determined by the Court. The Supreme Court rejected the appeal and confirmed the order of the Court of First Instance.

The case P. I. 5288/1950[25] before the Supreme Court illustrates also this problem. One of the peculiarities of this case (besides of clarifying the status of family assets, the order of heir and the consideration of "bad faith" and "vicious intention") is that the applicant had died before the Supreme Court reached its verdict, thus the case was dismissed. The object of the claim is a heritage which is claimed by the family of the husband and the wife's family as well. It is litigation which lasted more than two years regarding a legally simple question. The applicant, the widow K. BÉLÁNÉ P. KATALIN initiated an inheritance procedure regarding the heritage of her brother, P. DEZSŐ**.** P. DEZSŐ and his wife P. DEZSŐNÉ (born: S. EUGÉNIA) didn't have any children; having been forced to live in the ghetto of Szeged in 1944, they decided to commit suicide together. P. DEZSŐ informed his family regarding their common decision. We are not in possession of the exact fact, but P. DEZSŐ committed suicide alone on June 22, 1944, and his wife – who apparently survived the suicide attempt – was deported to Auschwitz. She was declared dead by the district Court of Szeged (decision No. 14.540/1946/6.) with the date of death May 9, 1945.[26] The Court concluded that it was clear that the date of death was not the same for the husband and his wife: the wife survived her husband, thus she should be considered as

[25] Source: Hungarian National Archives. The main proceeding started before the Court of First Instance [Törvényszék] (case number P 9424/15/1948, date of judgment: April 14, 1949), following the appeal, it was submitted before the Court of Appeal of Szeged [Szegedi Felsőbíróság] (case number P.I. 213/24/1950, date of judgment: March 14, 1950).

[26] An interesting date – having considered it after the liberation of the death camp as well –, this court was probably not the only one to determine the date of death taking into consideration the end of the war.

heir. As heir – in case of death –, her heritage and thus her ownership could be claimed on behalf of her deceased husband's family. The Court – having examined the heritage in question and concluding that the deceased couple acquired a house during their matrimony – also rejected that statement, according to which the heritage was a part of the "family asset", thus it rejected the applicant's request to reallocate the heritage to her. We know from the decision of the Court of Appeal that the heritage consisted of the ½ of a house and its furniture.

The claim of K. BÉLÁNÉ P. KATALIN according to which her ex-sister in law was unworthy to inherit from his husband as she had convinced him to commit suicide, was rejected on the ground "that in time of persecution it is more than understandable that a loving and devoted couple choose to die together. The fact that the wife survived can't be considered as a vicious intention on behalf of her". The Court concluded that – in the absence of children – it is P. DEZSŐNÉ, the wife of P. DEZSŐ, who should be considered as heir. Following her death, the heritage should be allocated to her family and relatives.

A similar case – which evidently concerned the evaluation of the testimonies – was the case regarding the declaration of death of F. BÉLA and others (including F. REZSŐ).[27] It was a similar case with the above mentioned regarding the rectification of the order concerning the exact date of death, in this case that of F. REZSŐ. The district court concluded that "according to the previous case-law, especially regarding the position of the court taken in case No. Pk. III. 768/1947, the fact that F. REZSŐ had been sent to the gas chamber during the selection and effectively had been brought to the building of crematorium, did not exclude [the possibility] that the said person nevertheless lived longer than the determined date of death". Based on the above, the Court finally declared in its order No. 32, dated February 28, 1949 that the date of death of F. REZSŐ[28] was October 15, 1944 (instead of September 15, 1944). According to the Central Database of Shoah's Victims Names, F. REZSŐ died on July 10, 1944.

The case No. Pk. III. 768/1947 and its findings were referred to in similar cases several times, as for example in case Pk. III. 4463/1948, the Supreme Court (*Kúria*) had reached the same conclusion regarding the death conditions and circumstances. It appreciated – based on the case-law – in the same manner the date of death of M. MÓR and others (including M. ANDOR). During the procedure the witnesses testified that they had seen M.

[27] Case No Pk. 1663/1947. District Court of Újpest.

[28] According to the database of Yad Vashem F. REZSŐ was born in 1903. He was married to Erzsébet. Prior to WWII he lived in Újpest, Hungary. He was murdered/perished in the Shoah. This information is based on a List of murdered Jews from Yizkor books found in *Az Újpesti Zsidóság Története*, (Tel Aviv: 1975), 89.

ANDOR in Auschwitz alive not only after the selection, but a couple of them had spoken to him as well. In the opinion of the Court, "to be put on the left side" after selection did not mean that all those who were in that column, were killed shortly. The Supreme Court denied the relevance and credibility of a testimony according to which the very exhausted M. ANDOR had been seen at the end of November or the beginning of December, 1944 alive next to Auschwitz walking on the road. The Court was of the opinion that as the witness had seen the said person form a truck, the testimony could not be appreciated as relevant evidence; taking into consideration the possibility of confusion and that could be a "comforting evidence" regarding that at that date M. ANDOR was still alive.

Without analyzing the gaps in the legislation at this stage, we shall note that in its article entitled *"Rendelettervezet a haolttányilvánítási eljárások egységesítéséről"* (draft legislation on the unification of the death declaration procedures),[29] the MTI (*Magyar Távirati Iroda*) mentions – based on the practice of the authorities – the amendment of the legislation in force (which entered into force later under No. 12.200/1948) on November 13, 1948. The roots of the need to unify the different kinds of procedures can be found in real life.

According to the new draft, those persons can be declared dead who disappeared between September 2, 1939 and December 31, 1945. The persons entitled to initiate such procedures are the spouses of the disappeared person, his/her heir(s), the guardian, nominated by the Guardianship Authority (*gyámhivatal*), the prosecutor of the Guardianship's Court (*árvaszéki ügyész*) and all other persons who have legal interest in the declaration of death. The district courts (*járásbíróság*, court of first instance) have the competence to proceed in these procedures: always that court has territorial jurisdiction where the disappeared had its last permanent residence in national territory. In the case of Hungarian nationals who had their last known permanent address abroad, the competent court shall be determined by reference to their last permanent residence in Hungary. That means that Hungarian courts cannot render a judgment on declarations of death in respect of aliens, unless there exists some legally relevant interest in seeking such declaration (e.g. if the missing person had property in Hungary).[30]

[29] Magyar Távirati Iroda, 1948. november 13., 9. óra 25 perc, 3. (source: Hungarian National Archives).

[30] Decision of the Supreme Court 6340/1896 (Grill Library of Law Reports, Volume on Civil Law, Vol 1, p. 43, edition 5): „the fact that the person to be declared dead is an alien is immaterial to the question of competence, if the property claimed by the heir who applies for the declaration of death is situated in Hungary" and according to decision 6268/1916 "Where a declaration of death is sought for the purpose of establishing the succession to immovable property situated in Hungary, Hungarian Courts are competent to conduct declaration of death procedure. In these cases it is the Hungarian law, and not the law of the country of which the alien to be declared

Another interesting issue: in the case of Hungarian nationals, Hungarian courts have exclusive jurisdiction and do not accept declarations of death issued by non-Hungarian courts. In the case of aliens, the declaration of death, as a general rule, comes under the jurisdiction of the authorities of the foreign country concerned. There are exceptions: e.g. if the alien had his/her last permanent residence there (§ 4 of the Decree No. 12.200/1948). In its decision 5751/1906 the Hungarian Supreme Court (*Kúria*) states.[31] "The person to be declared dead is not a Hungarian national and there are no data to show that he/she ever had his/her permanent residence in Hungary. Hence the Hungarian court has no jurisdiction to make a declaration of death in this case"[32] and as "a rule, Hungarian courts are only competent to make declaration of death in the case of Hungarian nationals; in exceptional cases, however, they may also declare the death of an alien, i.e. if the alien had his last residence in Hungary, and if the declaration of death proceedings are required to settle questions of succession".[33]

Following the end of the death declaration procedure, the decision of the Court (either the district Court or the Supreme Court) shall be communicated to the Ministers of National Defense and of Public Welfare, the Court having competence in inheritance procedures and to the Registrar (*anyakönyvvezető*) which has territorial jurisdiction (the place where the missing or deceased person was last domiciled, if it is unknown, the place of birth of the missing person, in case the later in unknown, the decision shall be communicated to the Registrar of the 4th District of Budapest). According to the relevant regulations, the applicant shall pay to the Court security for the costs of the proceedings, including the curator's expenses and fees, if any. If a declaration of death is granted, the person who advanced the costs and expenses, shall be entitled to be refunded out of the estate of the person declared dead, however, these procedures shall be exempted from the judicial and document fees and duties which prescribe existing legal provisions in analogous cases.

It is important to note, that in case another procedure was in progress – as for example an inheritance procedure –, and the disappeared person was considered as a living person, the subsequent procedure's outcome regarding the determination of death of the disappeared person had a retroactive effect on the first procedure.[34]

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dead was a national, shall apply" (Terffy, *Civil Procedure* (Vol. II.), p. 334, 7th edition and Artúr Meszlényi, *Magyar magánjog: törvények, rendeletek, szokásjog, joggyakorlat, magánjogi törvénykönyv szövegével és rendszerében: jogforrások, személyi és családi jog*. I–II. köt. (Budapest: Grill, 1928–1929), 303.

[31] European Legislation on Declarations of death, compiled by the Office of General Counsel (European Headquarters, American Joint Distribution Committee) (January 1, 1949)

[32] *Law Reports*, Jogtudományi Közlöny, p. 93, Vol. VI, year IV.

[33] Decision No. P.III. 1288/1913.

[34] Decision P. I. 1898/1921.

In an article regarding death declarations – published on July 20, 1950 in the *„Jogtudományi Közlöny"*[35] – DR ERNŐ BARÓTH states that the major part of the district Courts' work consists of the death declaration procedures, although their number is decreasing. He draws the attention to the fact that the aim of the decree 12.200/1948 was to simplify and to accelerate these procedures, as their number was so relevant due to the human loss of WWII, that the current laws in force couldn't handle it.

The simplification of the procedures consisted of (1) merging the relevant documentations and registries held at the Ministry of Defense and the Ministry of Public Welfare; (2) avoiding the publication in the Official Journal, and (3) not notifying the Guardianship's Court about the declarations.

DR BARÓTH has several suggestions as how to accelerate the procedures, which also imply that it is his strong conviction that the Courts' decision-making process are too strict, the interpretation of the laws is too narrow – a broader exercise of discretion should be given to the Courts, especially concerning the interpretation of the word "disappeared" and the determination of the date of death, as many of the decisions are appealed, the procedures are reopened and for this reason, a case can last several years.

Another point of interest is the declaration of death in case of aliens, which concerns especially district Courts whose jurisdiction covers territories where Romanian and Slovakian settlers are living. As we have seen above, the regulations on aliens were very strict, meaning that the death declaration of an alien in Hungary was very limited and having an exclusive jurisdiction regarding Hungarians, a foreign decision regarding the declaration of death of a Hungarian citizen was not valid in Hungary. So what happens to someone's family who, because of the country border changes, choses to move to Hungary or resettle in Hungary? Where can this family or the legal heirs initiate a death declaration procedure if one of the family members has disappeared, but formerly he or she was national or minority of another country? Theoretically, the Court had the possibility – although the case-law was very strict in that matter – to issue such a declaration, and it is probable that by the years of 1950s the practice had become more flexible and the use of § 4 (2) was more and more common, according to which: "If no district Court can be determined (…) the central district Court in Budapest shall have jurisdiction (…)". It is also supported by the opinion of several lawyers of that time, according to which Hungarian Courts might also have competence in death declaration procedures in the case of aliens whose countries recognized the validity of Hungarian proceedings and decrees, as well as in the case of persons whose nationality could not be established, but which persons resided in Hungary.

[35] *Jogtudományi Közlöny*, Year V., No. 11-14, p. 421, (1950).

5. Conclusions

We are not in possession of exact data regarding the death declaration procedures, but based on my research, it was one of the most important types of procedure after WWII. There are still undiscovered legal documents at regional level, or even outside the borders of Hungary. After more than sixty years we owe it to ourselves to clarify that part of history, especially in the memory of the more than 500,000 murdered Hungarian Jews. I do not have illusions that these procedures concern only a fragment of those who died, nevertheless, the analysis of the legal background, legislation, political and economic situation, the opinion and attitude of the judicial bodies help us to deepen the existing knowledge of this temporary era, and maybe to understand the subsequent developments as well.

The development of state structure in the principatus from Tiberius to Diocletianus (AD 14–284)

PÓKECZ KOVÁCS, ATTILA

ABSTRACT *The state apparatus established by Augustus created new public law relations in Rome. After the initial period, the autarchy nature of principatus increased evidently. Because Augustus tried to cover this as a political precaution, the imperial power's standard concept did not evolve, so the political system of principatus was not based on a well-founded legal institutional system, but rather it was the collection of different competences kept together by one person. Due to that, the descendants of Augustus had the possibility to put emphasis on the imperial power's certain elements by choosing the one or the other according to their tastes and the era's challenges.*

KEYWORDS *principatus, emperors, Dinasty, imperium proconsulare, senatus, praefectus*

The historical investigation on different reign periods of certain emperors and of those who were in power for longer time, makes it possible to define the power of *princeps* during the period of approximately three centuries. I consider practical to present in parts the changes of the public law systems of *principatus* according to the certain reigning dynasties and shorter eras.[1] I will analyse firstly the *princeps* of Julius–Claudius Dynasty[2] (AD 14-68), then the period of civil wars and the rule of the four emperors (68-69), the rule of Flavius (69-96), the era of Antoninus Dynasty (96-192), finally the era of Severus (193-235)[3] and the period of military anarchy as the end of *principatus* (235-284).[4]

[1] Jean Gaudemet, *Institutions de l'Antiquité* (Paris: Sirey, 1982[2]), 458.
[2] Claude Briand-Ponsart and Frédéric Hurlet, *L'Empire romain d'Auguste á Domitien* (Paris: Armand Colin, 2014[2]), 27-46.
[3] Béla Szabó, *Előadások a római állam- és jogtörténet köréből* (Miskolc: Bíbor Kiadó, 1999), 59.
[4] Yves Roman, *Le Haut-Empire romain (27 av. J.-C. – 235 av. J.-C.* (Paris: Ellipses, 1998), 44-47. and 65-76.

1. The emperors of Julius–Claudius Dinasty (AD 14-68)

The more than 45-year-long reign of Augustus strengthened the state apparatus of *principatus*.[5] In his life, in AD 13, he vested his earlier adopted stepson, Tiberius Claudius Nero, with the title of *imperium proconsulare maius*, who thanks to that became a quasi co-emperor.[6] After the death of Augustus in AD 14, Tiberius became a *princeps* (14-37),[7] who aimed to restore the order of senate's authority during his reign. The senate's opinion was asked for in the case of the most relevant decisions, and the senate was vested by significant criminal jurisdiction too.[8] As the dignity of Roman people (*maiestas populi Romani*) was incorporated by the *princeps*, the violation of his dignity realised a criminal offence against the state.[9] At the time of the reign of Tiberius, the senate made the decision on high treason procedures (*laesa maiestas*), and the convicted people, among them member of the senate could be found as well, could be punished with death, asset forfeiture and proscription.[10] The senate gained the right of the magistrates' selection, herewith the Roman assembly (*comitia centuriata*) irrevocably lost this right.[11] The selection of the magistrates at the time of Tiberius was the following: firstly the *senatus*, with the help of the emperor's recommendation (*commendatio*)[12] and his personal support (*suffragatio*), edited the nominee's complete nominal roll (*nominatio*), then between the *princeps* and the *senator*s a reconciliation took place (*destinatio*), after the finalization of the list, they were elected by acclamation *(acclamatio*).[13] Tiberius considered himself as the first man of the state and the best *senator*, but he resigned those titles which were possessed by Augustus as well. Therefore he was not an *imperator* and a *pater patriae*, and he also denied the attempts of his personality's *divinatio.*[14] The imperial power of Tiberius was based forcefully on his Praetorian Guard. The nine *praetor cohors* established by Augustus were drawn into a single ancient barrack (*castra praetoria*) near to Rome, and this was delegated under the authority of the

[5] Pierre Cosme, *Auguste* (Paris: Perrin, 2009), 134-276.
[6] Michel Humbert, *Institutions politiques et sociales de l'Antiquité* (Paris: Dalloz, 2011[10]), 382.
[7] Suet., Tib. 23-24.
[8] Suet., Tib. 30.
[9] Szabó, *Előadások*, 60.chc
[10] Suet., Tib. 58.
[11] Paul Petit, *Le Haut-Empire I. (27 avant J.-C. – 161 après J-C.) (*Paris: Édition du Sueil, 1974), 83-85.
[12] Alberto Burdese, *Manuale di diritto pubblico romano* (Torino: Unione Tipografici-Editrice Torinese, 1975), 166-167.
[13] Paul Petit, *La paix romain* (Paris: Presses Universitaires de France, 1967), 227-230.
[14] Suet., Tib. 26.

praetorian prefect (*praefectus praetorio*).[15] In consequence of his measures, Rome and Italy's single military unit was directly under the power of the praetorian prefect, and indirectly under the power of Tiberius.[16] In the time of Tiberius, around the regal house there was an enormous slave staff, but this did not differentiate from the situation in other families of *nobilitas*. Among the *consul*s, and therefore among the roll of the *senatus*, old republican leading family names could be found (Aemelius, Valerius, Cornelius). Though Tiberius aimed to cooperate with the *senatus*, but in return for that, he wanted the *senator*s to resign the direct leadership of state and support the imperial politics.[17]

After the death of Tiberius, the entire power of *princeps* was transferred to his appointed heir, Gaius Caesar Caligula (37-41).[18] Caligula, as the grandchild of Augustus, wanted to establish an imperial power similar to Hellenistic God-Kings, he declared himself as the "new Sun God" (*neos Hélios*).[19] At first, among the military he was popular; however because of his despotic kind of reign and the profanation of magistrate institutions (he planned to nominate his favourite horse, Incitatus, to a *consul*),[20] the members of the Praetorian Guard assassinated him with the consent of the representatives of standard *senatus* and the imperial court.[21]

His uncle, Claudius[22] (41-54) became his offspring, who realized a nature of centralised state reform, as a result of this, the Roman Empire turned into a state power, which was ruled by expertise, organized well administratively and better suited to the relation of this era.[23] In case of the ruling of administration, he primarily relied on the effective force of liberated people.[24] He established a centralised imperial private treasury (*fiscus Caesaris*), whereto he transferred a significant portion of income originated from imperial provinces. Thanks to this treasury, he organized the grain supply of Rome, the leader of which was henceforward an imperial official

[15] Suet., Tib. 37.
[16] Paul Petit, *Le premier siècle de notre ère* (Paris: Armand Colin, 1968), 14-16.
[17] János Zlinszky, *Ius publicum* (Budapest: Osiris-Századvég, 1994), 183.; Yves Roman, *Empereurs et sénateurs. Une histoire politique de l'Empire romain* (Paris: Fayard, 2001), 287-289.
[18] Suet., Calig. 13-14.
[19] Petit, *Le Haut-Empire I.*, 87-90.
[20] Suet., Calig. 55.
[21] Roman, *Empereurs et sénateurs*, 294.
[22] Dominique Briquel, "Claude, érudit et empereur," *Belles-Lettres 132/1* (1988): 217-232.; Jacques Heurgon, "La vocation étruscologie de l'Empereur Claude,"*Belles-Lettres* 97/1 (1953): 92-97.
[23] Humbert, *Institutions*, 383.
[24] Ferenc Benedek and Attila Pókecz Kovács, *Római magánjog* (Budapest–Pécs: Dialóg Campus, 2015[3]), 100-111.

of knight born, a *praefectus annonae*.[25] The common treasury (*aerarium*) functioned separately from the imperial private treasury, *fiscus*, and was supervised henceforward by the *senatus*, and the determinative incomes were originated from the senate provinces. The forceful reforms of the administration of Claudius had a strong influence on the imperial chancery's reformation. The chancery was divided into four departments (*officia*) accordance with specialities. Among the tasks of the *ab epistulis* could be found the drafting of the local administrative officials' mandates (*mandata*). The second significant unit was *a rationibus* department, which dealt with the finance and also with the accounting of *fiscus* and imperial property (*patrimonium*). The petitions of private people were handled by *a libellis* department, which prepared legal expert's opinions in order to the *princeps* could give more well-founded answers for the applications. The fourth organizational unit, *a studiis* was the department of imperial registrations and library matters.[26] Three significant measures were taken, the aim of which was to remedy, for a longer term, the frequent and temporary deficit of grain. The first one was that Claudius, in order to guaranty the winter grain transport, compensated from his property (not from the *aerarium*) the sailors' damage caused by thunderstorm.[27] As a second measure, he ensured legal advantages for those who undertook to guaranty the grain supply of Rome with a ship of at least 10 000 *modii* for a 6-year-long term.[28] The third measure included the starting of significant state constructions, the goal of which was to rebuild the harbour of Ostia.[29] Besides this, in favour of the security of Ostia and Puteoli harbours,[30] fire brigades were ordered to extinct fire efficiently.[31] Claudius was particularly interested in justice as well.[32] On divers occasions he functioned as a judge, primarily in the *cognitio extra ordinem* procedures.[33]

[25] Henrietta Pavis d'Esturac, *La préfecture de l'annone, service administratif impérial d'Auguste à Constantin* (Rome: École Française de Rome, 1976), 43-67.
[26] Francesco De Martino, *Storia della costituzione romana IV/1*.(Napoli: Jovene, 1962), 590-592.
[27] Suet., Cl. 18, 4.
[28] Barbara Levick, *Claude* (Dijon: Infolio, 2002), 143.; Gai. Inst. 1, 32c; Ulp. Reg. 3, 6; Suet., Cl. 19.
[29] Suet., Cl. 20.; Dieter Flach, „Die Rede des Claudius de iure honorum Gallis dando," *Hermes* 101 (1973): 313-320.
[30] Charles Texier, „Mémoire sur les ports situés à l'embouchure du Tibre: le port d'Ostie, le port de Claude, le port de Trajan," *Belles-Lettres* 1 (1857): 98-104.
[31] Suet., Cl. 25, 6.
[32] Suet., Cl. 23.
[33] Gaston May, „L'activité juridique de l'empereur Claude," *RHD* 15 (1936): 82-83.; Pierre Renucci, *Claude. L'empereur inattendu* (Mesnil-sur-l'Estrée: Perrin, 2012), 334-355.

Claudius was followed by his adopted son, Nero[34] (54-68),[35] who – was presumably inspired by Seneca – declared in his introduction, in front of the *senatus*, that he had wanted to maintain only the right of ruling military and foreign affairs (*res externae*), and he transferred administration and jurisdiction to the *senatus*. The idea of the restitution of republic, by this time, wan not on the agenda of political groups, because for the Roman military – which consisted of 30 legions (180 000 members) – and for the 22 imperial provinces a well-determinable leader was needed, and this could be only ensured by the *princeps*.[36] The initial years determined by Seneca's advisory function were replaced by the threatening countenance against the *senatus*.[37] High treason procedures started, a lot of *senator*s were sent to death, their assets were seized, consequence for that there were conspiracies against him, the military made mischief in a form of uprising at more places in the provinces, as a result of this Nero's power, in the Spring of 68, collapsed in the West side of the empire. The legions acclaimed the Hispanic province leader, Galba, to an emperor, which was recognized by the *senatus* as well. Nero was forced to escape and then he committed suicide.[38] With his death the ruling of Julius–Claudius Dynasty ended.[39]

2. The civil war and the reign of four emperors (68-69)

After the death of Nero, the *senatus* recognised Galba again as an emperor, since his family was one of the *nobilitas*.[40] As an old, conservative politician, his goal was the restoration of saving and military discipline. As a result of this, he denied the monetary donations (*donativum*), which were established for the Guard by former emperors on the occasion of their rising to power, in return of that the *praetorianus* assassinated him on the 15th of January in 69, and instead of him they acclaimed M. Salvius Otho to emperor.[41] In line with this, the Germania *legatus* of legions next to Rhine acclaimed Vitellius to emperor.[42] Between Otho and Vitellius the military confrontation took place in April of 69 in North Italy, which ended with the

[34] Suet., Ner. 8.
[35] D. McAlindon, „Senatorial Opposition to Claudius and Nero," *AJP* 77/2 (1956): 113-132.
[36] Pierre Cosme, *L'armée romaine. VIII^e s. av. J.-C. – V^e s. ap. J.-C.* (Paris: Armand Colin, 2009), 80-82.
[37] Rudolf Düll, „Seneca iurisconsultus," in *ANRW* II. *15*, ed. Hildegard Temporini (Berlin–New York: de Gruyter, 1976), 364-380.
[38] Roman, *Le Haut-Empire romain*, 46.
[39] Suet., Galb. 1.
[40] Suet., Galb. 2.
[41] Suet., Galb. 16.
[42] Suet., Oth. 8.

victory of Vitellius.[43] Otho committed suicide due to the defeat, and the East legions started movements, then on the 1st of July in 69 Flavius Vespasianus, the old and experienced captain, was acclaimed to emperor. Vespasianus was appointed by Nero as the captain of Roman army in Judean war.[44] Because of the confrontations between the followers of Vitellius and Vespasianus there were street battles in Rome, but later the brother of Vespasianus possessed the title of *praefectus urbi*,[45] and he supported his brother, that is why the latter won the battle. Vitellius was caught and then assassinated.[46] That is why at the end of the year of four emperors, 69, in the absence of Vespasianus, the *senatus* appointed him as an emperor on the 22nd of December. With his reign a new imperial Dynasty appeared in Rome, and with that a new era became.[47]

The year of four emperors can be reconsidered actually as an attempt of the *senatus* to get back the influence on the appointment of *princeps*. However, this intention failed for a 26-year-long period due to the accession to throne of Vespasianus and his sons.[48]

3. The Italian emperors, the reign of Flavius Dynasty (69-96)

In the history of *principatus*, in the consolidation of 1st century's public law and political relations, the three emperors of Flavius Dynasty of knight and Italian born played a huge role: Vespasianus (69-79) and his two sons, Titus (79-81) and Domitianus (81-96).[49] With their accession to throne, the citizens who lived in Italian towns, *municipium*, gained power.[50] This explains the effacement of former politics respecting old traditions. During the legislator work of Flavius Dynasty, their ideology honoured the society's public morals, the morality and shyness (*princeps pudicus*).[51] This was demonstrated by the personal guide of rulers – especially Vespasianus and

[43] Suet., Oth. 9.
[44] Suet., Vesp. 4.
[45] Giovanni Vitucci, *Ricerhe sulla prefectura urbi in età imperiale* (Roma: L'Erma di Bretschneider, 1956), 48-49.
[46] Suet., Vit. 8.
[47] Petit, *Le premier siècle*, 41-47.
[48] Briand – Ponsart – Hurlet, *L'Empire romain*, 51.
[49] Catherine Salles, *La Rome des Flaviens. Vespasien. Titus, Domitien* (Paris: Perrin, 2002), 107-179.
[50] Humbert, *Institutions*, 383.
[51] Francesco Grelle, „La 'correctio morum' nella legislazione flavia," in *ANRW* II. 13, ed. Hildegard Temporini (Berlin–New York: de Gruyter, 1980), 347-352.

Titus –, by the lifestyle rejecting luxury and by the exemplary family life as well.[52]

When Vespasianus rose to power, he gained the title of *imperator* again, which was passed over since Tiberius, and at the same time, he was a *consul* year by year, usually jointly with his elder son, Titus.[53] They both possessed the title of *censor* as well in 73-74, which made them possible to influence the composition of the *senatus*.[54] The rights of Vespasianus, at the time of his rising to power, were declared by the *senatus* in a separate decision (*senatus consultum de imperio Vespasiani*).[55] The fragmentary *senatus consultum* endured on a titled megalith.[56] If it was intact, we would have the possibility to analyse the entire quasi fundamental law of *principatus*, because the legislation expressly refers to that the above-mentioned powers were possessed by former *princeps* as well. The decision of the *senatus* vested the new *princeps* with those rights, which were possessed by Augustus, Tiberius and Claudius. Caligula and Nero could not be found among this list because they were cleared from memory (*damnatio memoriae*), and also the other three emperors from the year of 69 were not mentioned. According to the fragment, the *princeps* could conclude international contracts (*foedus facere*), convene the *senatus*, in front of it he could make proposals, return their decisions, and through motion and voting he could make *senatus* decisions. The *princeps* made proposal to the person of magistrate, and he gained the right to support nominee, and he made the *centuria praerogativa* take into account his nominee out of turn as well. In addition, he could alter the frontiers of *pomerium*, and he could make those decisions, which were, according to him, practical in the aspect of Roman national interest or certain individuals.[57] The *senatus consultum* did not mention all the imperial powers, but expresses unambiguously that the *princeps* is the determinative person of the state.[58] However there is no reference to the selection of *princeps* or to the commencement of his reign. That is why the question of succession was not regulated either. In this sense, Vespasianus already in his life tried to care about the succession: in addition to the common titles, which he possessed jointly with his son, Titus, he also shared the *tribunicia potestas* and the *imperium maius*.[59] At the time

[52] Grelle, „La 'correctio morum'," 352-359.
[53] Suet., Tit. 6.
[54] Grelle, „La 'correctio morum'," 364.
[55] CIL VI, 930.
[56] Dario Mantovani, „Les clauses «sans précédents» de la lex de imperio Vespasiani: une interprétation juridique," *Cahiers Glotz* 16 (*2005*): 25-43.
[57] Frédéric Hurlet, „La Lex de imperio Vespasiani et la légitimité augustéenne," *Latomus* 52 (1993): 261-280.
[58] Claude Nicolet, „La Tabula Siarensis, la lex de imperio Vespasiani, et le jus relationis de l'empereur au Sénat," *MEFRA* 100/2 (1988): 827-866.
[59] Suet., Tit. 6.

of Nero and his offsprings, enormous national debt was accumulated and it was needed to be solved hastily mostly due to the unpaid military pay for soldiers. Therefore Vespasianus seized the imperial estate of Nero and he attached this estate holding to the extant state estates (*ager publicus*).[60] Thereupon an imperial land property (*res privata*) came into existence, which affected all the provinces of empire, and beside that there were no longer state estates. To this *res private*, abandoned estates (*bona caduca*) from the territory of empire were attached as well. That is why the imperial private and office administration, which were earlier separated at the time of Claudius, fused in this area. After the death of Vespasianus in 79, he was succeeded firstly by his elder son, Titus, then due to the latter's early death as well, his younger son, Domitianus gained the title of *princeps*.[61]

Titus (79-81) during his short period of reign followed the politics of his dad.[62] At the time of his *principatus*, the Vesuvio broke out on the 24th of August, which destroyed Pompeii, Herculanum and Stabiae settlements.[63]

Domitianus (81-96), in spite of his ancestors, tried to realize a despotic system.[64] Every year he was elected to *consul* and tribune of the plebs. Besides this, he vested himself with the title of *dominus et deus* as well. With the effacement of the *senatus*, he established a closed advisory body from his personal confidential people (*amici principis*), which became the prefiguration of posterior *consilium principis*.[65] In the structure of imperial officials, instead of liberated people, he wanted to rely on the order of knights. During his reign a lot of high treason procedures were commenced against *senator*s as well,[66] which ended with executions and asset forfeitures.[67] Generally spoken, he wanted to rely on soldiers against the aristocracy of *senatus*, that is why he increased one third the military pay of legions.[68] As among the *senatus* he was not so popular, a wide range of conspiracy evolved, finally his private *secretarius*, who was bribed by conspirators, assassinated him.[69] Following this, the *senatus* by foregoing the decision of Guard put M. Caecinus Nerva *senator*, who was regarded earlier as the faithful follower of Domitianus, in the position of emperor.[70]

[60] Humbert, *Institutions*, 383.
[61] Petit, *Le Haut-Empire I*, 115-124.
[62] Blanche Parsi, *Désignation et investiture de l'empereur romain (I^er et II^e siècle après J.-C.)* (Paris: Sirey, 1963), 171-174.
[63] Petit, *Premier siècle*, 50.; Roman, *Le Haut-Empire romain*, 47.
[64] Suet., Domit. 3.
[65] John Crook, *Consilium principis. Imperial councils and counsellors from Augustus to Diocletian* (Cambridge: University Press, 1955), 48-52.
[66] Suet., Domit. 10.
[67] Roman, *Empereurs et sénateurs*, 323-329.
[68] Humbert, *Institutions*, 383.
[69] Suet., Domit. 14-14.; .Briand and Ponsart and Hurlet, *L'Empire romain*, 54-63.
[70] Petit, *Le Haut-Empire I*, 163-165.

In the era after Augustus, one of the most important public law questions was the problem of the constitutional transferring of *princeps* power, which was solved by Vespasianus with the help of the dynastic succession of Flavius Dynasty. However the dynastic succession of imperial power could not strike root, because the intentions of Vespasianus were only successful due to the consolidation of civil war situation. This status ended with the death of Domitianus, in this way, because of the failure of the *senatus consensus*, the guards could decide on the question of succession.[71]

4. The era of emperors of provinces born, the Antoninus Dynasty (96-192)

With the accession to throne of Nerva, the almost one-century-long reign of Antoninus commenced, which at the same time could be considered as the golden age of *principatus*, since the emperors of the new dynasty succeeded to find the balance between the power of *senatus* and *princeps*. The emperors of the era were called Antoninus by historical traditions, however the first three rulers, Nerva, Traianus and Hadrianus were not Antoninus in the sense of blood relation. In order to the undisturbed succession of *princeps* title, the system of adoption (*adoptio*) gathered ground in this time, which successfully eliminated the battles for power.[72] This is the era of the rising of provinces born citizens as well. At the same time, it is worthy to notice that Traianus, who possessed the 'best *princeps*' title (*optimus princeps*), was called uniformly *dominus* by his milieu.[73]

The short period of reign of Nerva (96-98) could be typified as the gestures for the *senatus* and the intense confrontation in the case of military. He was not yet an appointed successor, his appointment was only originated from his personal excellence. However he penalized Domitianus with a condemnation of memory penalty (*damnatio memoriae*), but maintained the significant portion of his measures. As the pressure of military, he firstly adopted the Hispanic born, province governor, Traianus, and made him become co-emperor.[74] Hence after the death of Nerva (in 98), he accessed to throne, later it became a practice that the *princeps*, already in his life, appointed a close contributor, then adopted him (*adoptio*) based on private law. According to this, not the blood relations and relationships, but the personal excellence played a huge roll during succession.[75] The only

[71] Maria Bats and Stéphane Benoist and Sabine Lefebre, *L'empire romain au III^e siècle de la mort de Commode au Concile de Nicée* (Tournai: Atlande, 1997), 63.
[72] Parsi, *Désignation*, 14-21.
[73] Petit, *Le Haut-Empire I.*, 161-174.
[74] See also Gábor Szlávik, *Traianus útja a hatalomba. Egy antik rendszerváltás története* (Budapest: Új Mandátum Könyvkiadó, 2006).
[75] Parsi, *Désignation*, 182-186.

exception was Commodus (180-192), who was the son of Marcus Aurelius, and with his reign the dynastic principle dominated again.[76]

At the time of Traianus (98-117), the conquest newly got off the ground, during his reign the extension of Roman Empire culminated. Traianus himself made the composition of his advisory body, thus in this field the role of *senatus* was effaced.[77] He increased the state expenses, but he managed to supervise wider areas. In line with the conquests, he paid special attention to the Romanization of the citizens of provinces as well. Sometimes he granted them Roman citizenships, moreover to make this easier he released lot of people from the new *cives Romanus* of the payment of the 5% inheritance tax (*vicesima hereditatum*).[78]

Hadrianus (117-138), similar to Traianus, came from a Hispanic, order of knights family, who was declared as a successor in the testament of his ascendant.[79] The reorganization of central imperial administration can be considered as his most important public law act. He established two new departments (*scrinum*) in the imperial chancery, so the number of them increased to six. One of the new departments dealt with the preparation of legal cases (*a cognitionibus*), and the other one handled the tasks of the libraries, archives and records offices (*a bibliothecis*).[80] The task of the principled ruling and control were focused in the hand of the imperial council (*consilium principis*), among its members *senator*s, knights, military leaders and legal experts can be found (Salvius Iulianus).[81] The legislative role of *senatus* decreased, but the role of *princeps* increased in this field as the *senatus consultum*s were degraded to the approval of imperial proposals (*oratio principis*) by exclamation (*acclamatio*). The most important titles of imperial administration – with the exception of *praefectus urbi*, which was maintained for the order of *senator* – were gained by knights.[82] Thus the offices filled by them were first and foremost the two *praefectus praetorio*, *praefectus vigilum*, who handled the Roman law enforcement and fire service, *praefectus annonae*, who was responsible for the grain supply; and the *praefectus Aegypti*, who possessed the title of governor of Egypt. At the time of Hadrianus a *praefectura*, which was responsible for the working of imperial post service, came into existence, the leader of this was the *praefectus vehiculorum*,[83] who was placed under the supervision of the *praefectus praetorio* and gained 100 000 *sestertius* payment. In Rome, Italy

[76] Humbert, *Institutions*, 83-385.
[77] Crook, *Consilium principis*, 53-55.
[78] Petit, *Le Haut-Empire I.*, 163-165.
[79] SHA, Hadr. 1.
[80] De Martino, *Storia*, 588-592.
[81] Elmar Bund, „Salvius Iulianus, Leben und Werk," in *ANRW* II. 15,ed. Hildegard Temporini (Berlin- New York: de Gryter, 1976), 408-454.
[82] Joël Schmidt, *Hadrien* (Paris: Perrin, 2013), 211-217.
[83] SHA, Hadr. 7.

and provinces, on the low levels of administration established by the *princeps*, there were *procurator*s. At the time of Hadrianus the empire consisted of 40 provinces, and only 11 of them were under the supervision of the *senatus*.[84] People, to the title of governors of other provinces and to the title of *procurator*s of smaller ones, were appointed by the emperor. However the *princeps* were entitled to have the right of recommendation related to *senatus* provinces (*commendatio*), in spite of that in these provinces legions usually did not station at. The lower layers of knights were involved in the management of the imperial chancery's legal issues; they became fiscal prosecutors *(advocati fisci*). At the time of Hadrianus the *procurator*s were listed in four payment categories:[85] 60 000 (*sexagenarius*), 100 000 (*centenarius*), 200 000 (*bicentenarius*) and 300 000 (*tricentenarius*) *sestertius* monthly payment.[86] Hadrianus established a new office, the body of grain supervisors (*frumentatores*) too for the order of knights. The members of this body supervised the division of grain for Rome and the military, then they supervised the tax collection as well, in addition they functioned as plain-clothes men and informers. The titles of *praefectus* were given by the emperor himself with the help of the recommendations of the executive and province governors of competent *scrinum*s.[87] At the time of the reign of Hadrianus the *praetor*ian *magistratura*, which was the only existing one and possessed ancient powers, lost his separate right of decision-making, the 14 *praetor*s, who were appointed every year, could no longer publish *edictum*. In line with this, Salvius Iulianus, due to the instruction of Hadrianus, collected and terminated the themes of *edictum*s issued during the *praetor*'s functioning of almost five hundred years, this is known as the *Edictum Perpetuum*.[88] From this time new laws could be passed by the *senatus* and emperor. He made attempts in order to reform the administration of justice by taking the managing of Italian cases out of the power of *senatus*, and gave this to four *senators* already possessing the titles of *consul*, who practised that, due to their title of *legati Augusti pro praetore italici*, in four newly established districts.[89] However, in practice, this reformation did not work, and soon disappeared without being able to have any influence on the subsequent eras.[90] According to this, it can be stated that at the time of Hadrianus the empire became permanently autarchy, and

[84] Hans-Georg Pflaum, *Abrégé des procurateurs équestres* (Paris: Éditions E. De Boccard, 1974), 20-23.
[85] Hans-Georg Pflaum, *Les salaires des magistrats et fonctionnaires du Haut-Empire. Les «dévaluations» à Rome. Époque républicaine et impériale. Volume 1.* (Rome: École Française de Rome, 1978), 311-315.
[86] Roman, *Le Haut-Empire romain*, 68-70.
[87] Pavis d'Esturac, *La préfecture*, 34-35.
[88] Schmidt, *Hadrien*, 217-222.
[89] SHA, Hadr. 22, 13.
[90] Petit, *Le Haut-Empire I.*, 182-188.

the *princeps* himself only became a ruler relying on soldiers, officials and jurists. The government control and political system unambiguously moved from *principatus* to *dominatus*.[91]

Antoninus Pius (138-161), as the adopted child of Hadrianus, accessed to throne.[92] His reign was the most successful and happiest period of Roman State's history, which on the one hand created the much-wished Roman peace (*Pax Romana*), on the other hand the people from provinces could enjoy the results of economic progress due to his excellent governmental and administrational talent.[93] Antoninus Pius was not only the state's autocrat, but the protector and benefactor of the citizens as well, he wanted to care about his citizens through the general tax reduction applied to everyone.[94] He also stepped up for the protection of slaves, and due to his provisions in the case of the cognition of their inadequate treatment, the proprietors could be made to liberate their slaves through official way.[95] He made his decisions after asking for the opinion of his prestigious jurists (Volusius Maecianus, Ulpius Marcellus).[96]

Marcus Aurelius (161-180), the formerly appointed successor of Antoninus Pius, commenced his reign with Lucius Verus,[97] as co-emperor.[98] In the history of Roman *principatus* this was the first example for imperial partnership, in which Marcus Aurelius played the leading role, because he was the only one, who possessed the title of *pontifex maximus*. The co-emperors shared the ruling of provinces between each other, while Marcus Aurelius got European and African provinces, the Asian ones were supervised by Lucius Verus.[99] This imperial partnership lasted only until the death of Lucius Verus in 169.[100] During his reign new external offences were mounted against the empire, the prevention of which required lot of energy. All the external offences brought military success for Rome and ended with peacemaking,[101] which was appropriated by the emperor for the stabilisation of the provinces' situation and the settling of financial situation, moreover during his reign the members of *consilium principis* got new permanent status.[102]

[91] Humbert, *Institutions*, 384.
[92] SHA, Ant. Pi. 1.
[93] Petit, *Le Haut-Empire I.*, 220-227.
[94] SHA, Ant. Pi. 6-8.
[95] Petit, *Le Haut-Empire I.*,172-174.
[96] SHA, Ant. Pi. 12.
[97] SHA, Marc. Aur. 7.
[98] Yves Roman, *Marc Aurèle. L'empereur paradoxal* (Paris: Payot, 2013), 198-212.
[99] Petit, *Le Haut-Empire II.*, 15-17.
[100] SHA, Luc. Ver. 8-10.
[101] Roman, *Marc*, 257-310.
[102] Gottfried Härtel, „Der Beginn der allgemeinen Krise im Westen des Römischen Reiches. Wirtschaftliche und soziale Veränderungen in der Zeit von Marc Aurel bis

The last Antoninus, Commodus (180-192), as the blood-related child of Marcus Aurelius, accessed to throne, and he worked on the configuration of absolute personal power. His passion was gladiator fights, in these he often participated as well.[103] The external offences and riots affecting the empire could be handled temporally by officials appointed by his dad. The *senatus* became the formal reinforcement of imperial decisions, during his reign people of provinces born already composed the 60% of *senator*s.[104]

The era of Antoninus can be considered as the heyday of *principatus*, because by this time the balance between the role of *senatus* and *princeps* was succeeded to find. The power was not transferred from one *princeps* to the other due to adoptions based on blood relation, but on personal excellences and that was competent to the *senatus* as well. Among the *senator*s rather those who were of provinces born came to the front.[105]

5. The era of empires of East born, the Severus Dynasty (193-235)

After the assassination of Commodus, the Roman Guard and the *senatus* in 193 elected P. Helvetius Pertinax to *princeps*.[106] During his short period of reign (less than 3 months) he set an aim to stabilize the military and fiscal discipline, regain the authority of *senatus* and realise the saving economy.[107] After his assassination, in 193 so far four emperors were elected as well, from them only M. Didius Iulianus (193) and L. Septimius Severus (193-211) gained the reinforcement of *senatus*.[108] After Didius Iulianus survived only a few months, the power was gained by Septimius Severus, who was supported by the legions stationing at Pannonia.[109] He is the first non-European born ruler, because he was born in an African, order of knights family,[110] moreover his wife, Iulia Donna, had great influence as the daughter of a Syrian pontificate, so she was of East born as well. However for the first time, the Roman aristocracy received him mistrustfully, after the initial period of civil war, from 197, he already ruled an autarchy. As a first measure he dissolved the Guard, who was unreliable and responsible for the

zum Septimius Severus (161-211)," *Zeitschrift für Geschichtswissenschaft* 13 (1965): 262-276.; Anne Daguet-Gagey, *Septime Sévère. Rome, l'Afrique et l'Orient* (Paris: Payot, 2000), 57-84.

[103] SHA, Comm. 12-13.

[104] Petit, *Le Haut-Empire II.*,20-24.

[105] Roman, *Le Haut-Empire romain*, 65.

[106] Daguet-Gagey, *Septime*, 181-208.

[107] SHA, Helv. Per. 7., 13.

[108] Bats and Benoist and Lefebre, *L'empire*, 43-45.

[109] Daguet-Gagey, *Septime*, 209-243.

[110] SHA, Sept. Sev. 1.

death of lot of emperors, and from the soldiers of provinces he established a new *praetorianus* Guard of ten thousand members.[111] He based his power on the military, so he increased on and on the number of *legio*s of the empire (from 30 to 33), and the military pay of soldiers was increased as well. The imperial estate property unified in the time of Vespasianus was divided into two parts again: while *res privata* meant the imperial official and state lands, the lands seized during the civil wars of 193-197 went to the personal property of the emperor (*patrimonium privatum*).[112] Beside those who had military titles, the jurists gained influence, lot of significant legal experts became the members of the *consilium principis* (Paulus, Ulpianus, Papinianus). From 205 he doubled the title of *praefectus praetorio*, and from that time he usually filled the offices with one soldier and one jurist. In the system of imperial offices he relied on the order of knights, among them there were more Eastern and African born.[113] The jurisdiction of the *senatus* extended only to Rome and Italy. Due to these measures a military bureaucratic state evolved.[114]

Septimius Severus already in his life appointed his two sons, Caracalla (211-217) and Geta as his successors.[115] However his attempt to the imperial partnership failed, because after his death, Caracalla, who accessed to throne as an autocrat, after one year of reign in 212 had his brother assassinated, and he also had Papinianus, the *praefectus praetorio*,[116] executed due to his disapprobation.[117] The most relevant public law event of the short period of his reign was the *constitutio Antoniniana*,[118] which gave the Roman citizenship to all independent inhabitants of the empire, except the *peregrini dediticii*,[119] who were forced to unconditional surrender.[120] There were also fiscal reasons of this measure, because at the same time the taxes paid by the independent Romans were increased from the previous 5% (*vicesima hereditatum*) to 10%.[121] He tried to continue his dad's intent of conquest, and even then during an expedition he was assassinated by his leader guard, M. Opelius Macrinus (217-218), who was acclaimed to emperor as well by one

[111] Cosme, *L'Armé*, 84-87.
[112] Petit, *Le Haut-Empire II.*, 75.
[113] Bats and Benoist and Lefebre, *L'empire*, 45-47.
[114] Daguet-Gagey, *Septime*, 337-362.
[115] Roman, *Le Haut-Empire*, 105-106.
[116] Jean-Pierre Coriat, „Les préfets du prétoire de l'époque sévérienne. Un essai du synthèse," *Cahiers Glotz* 18 (2007): 179-198.
[117] SHA, Sept. Sev. 21., SHA, Carac. 3.
[118] Petit, *Le Haut-Empire II.*, 70-72.
[119] Arnold Hugh Martin Jones, *Studies in Roman Governement and Law* (New York: Frederick A. Praeger Publishers, 1960), 129-140.
[120] Zlinszky, *Ius publicum*, 187.
[121] Bats and Benoist and Lefebre, *L'empire*, 237.

part of the military.[122] Those who supported Caracalla elected Avitus Elagabalus to emperor in 218, then he was the one, who came out as a winner from the battles with Macrinus.

Elagabalus (Heliogabalus, 218-222) and also his successor, Alexander Severus (222-235) were helped by the Syrian women members of Severus Dynasty.[123] However after his religious enthusiasm and his attempt to establish by force the Eastern cult (he was the pontificate of Helios), he provoked antipathy, that is why his members of family firstly forced him to adopt his nephew, then they had the emperor, who lost prestige, assassinated by the guards.[124]

Alexander Severus accessed to throne as a young man, so instead of his will, the will of his women ascendants was forced,[125] but Ulpianus had significant impact as well, who possessed the title of *praefectus praetorio.*[126] During the time of the government of Alexander Severus, instead of the former military, the return for bureaucratic government was typical. The number of the members of imperial council consisting of *senator*s and order of knights became 70, and there were some jurists, 20 among them as well. On the occasion of the riot, which broke out during German expedition, he was assassinated together with his mother and the *praefectus praetorio,* Paulus.[127] With his death the power of Severus Dynasty ended and the relative stabilisation of Roman *principatus* terminated as well.

The Severus Dynasty wanted to show up as the successors of Antoninus Dynasty. Several of the Dynasty's emperors wanted to establish despotic power, and according to this the administration of empire reached the highest development of organization.

6. The era of military anarchy (235-284)

During fifty years – with the opponent emperors as well – forty emperors were accessed to throne, and among them there were just a few who died from natural causes. In spite of more difficult conditions, the monarchical nature of empire henceforward strengthened. The significance of the *senatus* terminated at the end of the era, so when the soldiers in 285 summoned the *senatus* to appoint the *princeps*, to this the *senator*s said that the military had been entitled to do that. In this era, which deployed more emperors, only the reign of Gallienus (253-268), Aurelianus (270-275) and Probus (276-283) lasted for a longer time, so they had only the possibility to initiate

[122] SHA, Carac. 8.
[123] Petit, *Le Haut-Empire II.*, 50-53.
[124] SHA, Alex. Sev. 16.; Bats and Benoist and Lefebre: *L'empire*, 50-51.
[125] SHA, Alex. Sev. 3.
[126] Bats and Benoist and Lefebre, *L'empire*, 51.
[127] Zlinszky, *Ius publicum*, 183.

substantive public law reforms. The administration went through an enormous development, and the most stunning result of this was that the 20 titles of *procurator* already existing in the time of Augustus increased by the third century to 180.[128]

The era was finally terminated by the acclamation of an Illyrian guard, G. Valerius Diocles to emperor in 284, who was known as Diocletianus (284-305), and during his reign for more than two decades he became the establisher of a new public law system, the *dominatus*.[129]

[128] Karl Christ, *Geschichte der römischen Kaiserzeit von Augustus bis zu Konstantin* (München: Beck, 1992[2]), 698.
[129] See also Stephen Williams, *Dioclétien. Le renouveau de Rome* (Dijon: Infolio, 2006)

The Situation Relating to Real Estate and Wealth Taxation in Hungary

SZILOVICS, CSABA

ABSTRACT *The need for a uniform system of wealth taxation, including the taxation of real estates has been formulated several times in the plans of the socialist governments on tax reform, since the democratic political transition. The Hungarian Parliament made two attempt to carry out a significant transformation of the system of real estate taxation in force at the time, which endeavour was communicated by the government in office as the introduction of a new element into the taxation of wealth. These attempts were unsuccessful, because society demonstrates a negative attitude toward wealth taxation, which appears as a surplus tax in the present system of taxation and does not mean the redistribution of the tax burden. In my opinion that is the main reason that the theoretical, practical or material conditions are not given for introducing wealth taxation in Hungary.*

KEYWORDS *real estate taxation, wealth tax, surplus tax*

1. The role of the taxation of real estates in the tax system

In November 2007 the Hungarian Parliament made a repeated attempt to carry out a significant transformation of the system of real estate taxation in force at the time, which endeavour was communicated by the government in office as the introduction of a new element into the taxation of wealth.[1] Since the democratic political transition the need for the taxation of real estates, or even more, for a uniform system of wealth taxation has been formulated several times in the plans of the socialist governments on tax reform. This intention could be traced back to misinterpreted social sensitivity and the ever present need for obtaining revenues. The theoretical principle underlying real estate taxation following the democratic transition

[1] See more about the French model in: Eric Pichet, *Towads a reform of France's ISF wealth tax and general regime for the taxation of personal estates*, accessed April 1, 2016.
https://www.researchgate.net/publication/302441283_TOWARDS_A_REFORM_OF_FRANCE'S_ISF_WEALTH_TAX_AND_GENERAL_REGIME_FOR_THE_TAXATION_OF_PERSONAL_ESTATES

derived from Article 70/I of the Hungarian Constitution, which laid down the obligation for all citizens to contribute to public revenues on the basis of their income and wealth. Unfortunately, Hungarian jurisdiction has not defined the precise contents and frames of this principle, despite the fact that the Constitutional Court has dealt with this question several times.[2]

A basic principle underlying a well-functioning and fair system of wealth taxation could be the harmonized taxation of the different elements of wealth or, at least, to define the taxes imposed on them having regard to the other elements.[3] As opposed to this, in the Hungarian practice one may observe that the taxation of wealth, which may be regarded as the sum total of various elements of wealth, is carried out based on diverging criteria. Different methods are applied concerning the taxation of a wide range of personal assets, while vehicles are subject to a central tax, the proprietors of works of art do not pay any taxes, similarly, no tax is imposed on foreign investments either, and as for the taxation of cash, it is practically unsolvable. Since the democratic transition the owners of agricultural land have been exempt from the payment of taxes on their land. A tax obligation – in the form of a personal income tax – arises only where the owner lets the land and the period of lease is shorter than five years. Neither in the past, nor in the present can one speak of a uniform, proportional system of contribution to public revenues carrying into effect the spirit of Article 70/I in a truthful and consistent manner and being based on the harmonized taxation of the different elements of wealth.

I would like to note that, in my opinion, paragraph (1) of Article XIII of the new Fundamental Law ensures the theoretical possibility of wealth taxation when it provides that: "*Property shall entail social responsibility*". I think that this possibility has also been formulated in Article XXX, which states that everyone is to contribute to covering common needs according to his or her capabilities and to his or her participation in the economy. In Hungary a significant difference can be observed in the taxation of incomes and that of wealth, therefore one cannot speak of consistently interpreted proportionality in the field of taxation even at present. Behind the real estate taxation of each era one may perceive the underlying purpose that, due to the fact that real estates are by their nature more difficult to conceal, a transformed real estate tax in the form of a supplementary tax would enable the subsequent taxation of hidden or

[2] For example, in Decision (AB) 66/B/1992, Constitutional Court Decisions (ABH) 1992 735;737; Decision (AB) 61/1992. (XI. 20.), Constitutional Court Decisions (ABH) 1992, 280;281; Decision (AB) 21/1991. (IV. 26.), Constitutional Court Decisions (ABH) 1991. 404; Decision (AB) 163/B/1991, Constitutional Court Decisions (ABH) 1993, 544, 545-546.

[3] D. Kotyrba and K. Kendall, "German Taxation of Real Estate: The New G-REIT" *Journal os International Banking Law and Regulation* 21 (2006): 634-639.

untaxed incomes in the interest of social justice. It is a fact that real estates are difficult to keep in secret, therefore they appear as more visible and accessible objects of taxation, however, it would be a great mistake to use this tax as an egalitarian means for the purpose of rectifying earlier wrongs in a repressive manner. One should not introduce a new tax in such a way with a view to correcting the deficiencies of earlier taxes.

If real estate tax is to be regarded as a means of realizing a fully accomplished system of taxation, it may justifiably be argued that there is real estate taxation in operation in Hungary; moreover, it has long formed an inalienable part of the Hungarian system of taxation.[4] It is a fact that in the period that has passed since the introduction of the tax reform of 1988 and the adoption of Act of 1990 on local taxes, the significance and proportion of real estate taxes among tax revenues has decreased remarkably.[5] In 1997 the rate of real estate taxes, which had been banished into the system of local taxes by the end of the 1990s, was even below 0.2% of the GDP.[6] Due to the reduced state funding provided for the economic operation of local governments that was experienced after the turn of the millennium and the introduced calculation of tax revenue raising capacity, local governments were forced to extend the scope of real estate taxation. Nevertheless, this did not, could not, lead to a substantial increase in revenues under the existing financial, social and legal conditions.

If one is to examine in a wider context what led to the enhanced role of this type of tax, it may be stated that it was motivated by the purpose of a nominal increase in tax revenues, or to formulate it more sophisticatedly, the broadening of the tax base and the expansion of local resources. The Hungarian tax and budget system has to face a lot of challenges even at present, which probably cannot be remedied by the expansion of real estate taxation. Without the intention of providing a comprehensive analysis, let me mention a few of the numerous problems:

a) Earlier revenues from European Union customs tariffs, which used to flow into the central budget, have not been replaced. A type of revenue that was one of the easiest to plan and most calculable has become eliminated and this process has been accompanied by the slowing down of the pace of GDP growth.
b) Owing to the low tax morale, which has evolved partly because of the over-taxation of natural persons and small enterprises, the tax system can operate at low efficiency.

[4] György Takács, *Rendszeres magyar pénzügyi jog [Systematic Hungarian Financial Law]*, Budapest, 1936, Grill Kiadó, pp. 96.
[5] László Kónya, *Az ingatlanadóztatás Franciaországban*, [*Real Estate Taxation in France]*, Pénzügyi Szemle, 43. évfolyam, 8. szám, 1998. pp. 643.
[6] Kónya: op. cit. p. 643.

c) The high level of the public debt, on the repayment of which we annually spend the whole revenue coming from the personal income tax in Hungary. At the same time, as a result of the expansion of the tendering system, the demand for ensuring own contribution has increased dramatically both at the local and central levels, which absorbs substantial resources from the budget.
d) The spending of public funds is characterized by large-scale corruption, the financing of meaningless prestige investments and the transformation of public funds into private funds.

It is these causes among others that have led to the result that the Hungarian budget is hungry for any public revenue.[7] If a new form of public revenue appears in any corner of the world, Hungary adopts it without delay (see registration tax), and because the number of these new possibilities is limited, Hungarian legislature is forced to tighten the system of taxation within the existing frames and creatively establishes new tax types, teaching a lesson also to the world. (As an example one may mention the "chips tax", the tax on financial transactions, and sector-specific surtaxes.) Parallel to this, investigations into wealth acquisition started in great numbers in 2009 and there was a marked decrease in tax benefits.

2. Real estate taxation under the Hungarian regulation in force

It may undoubtedly be stated concerning the Hungarian system of real estate taxation that since the democratic political transition it has formed an important part of our tax system in the form of some types of local taxes laid down in Act X of 1990 (building tax, property tax, and community tax). The examination of the spread of introduction of real estate taxes reveals that in 1998 domestic property tax, non-domestic property tax and land property tax as local taxes were levied by 215, 633 and 388 local governments respectively out of the 3200 local governments.[8] The theoretical foundations for local taxation were established by Article 44/A of the former Hungarian Constitution, which ensured local governments the right to levy local taxes within the frames defined by statute by Parliament.[9] A similar statutory regulation may be found in Spain, where Article 133 of the Constitution states that "*self-governing Communities and local Corporations may impose*

[7] See the international examples: Mariacristina De Nardi and Fang Yang, "Wealth Inequality, Family Background, and Estate Taxation" *NBER Working Paper* No. 21047, (http://www.nber.org/papers/w21047), accessed March 2015.
[8] Kónya: op. cit.
[9] See the international example: Jennifer Bird-Pollan, "Unseating Privilege: Rawls, Equality of Opportunity, and Wealth Transfer Taxation", 59 *Wayne Law Review* 713 (2013):68 accessed 26 March, 2014.

and levy taxes, in accordance with the Constitution and the laws". Similar formulations are found in the Belgian and Estonian Constitutions as well, moreover, this right has also been declared by Article 9 of the European Charter of Local Self-Government:

"Local authorities shall be entitled … to adequate financial resources of their own… Part at least of the financial resources of local authorities shall derive from local taxes and charges of which, within the limits of statute, they have the power to determine the rate."

Taking into consideration the statements contained in the above passage, one may declare that the Hungarian regulation is in conformity with international practice. The problem may lie in the proportion represented by local taxes among local government revenues as well as the amount of state grants provided for the performance of compulsory tasks. The financial scope for action of local governments is mainly determined by the amount and method of the allocation of grants from the central budget,[10] which has rendered local self-governments defenceless, because the financial basis of their operation is set by the amount of central government support. While in 1991 central government grants constituted 47.1% of all revenues, in 1997 this rate was only 31.7% and in 2002 it was further reduced to 26.8%. A study published by the State Audit Office in 2012 revealed that local self-governments were forced to exploit the possibilities provided by local taxation. In 2010, with regard to cities with county rank, the rate of the local business tax was 1.97% compared to the 2% maximum tax rate. In the same sphere the rate of utilization of the building tax was 55% and the tax gap, that is the difference between the collected taxes compared to the theoretical tax liability, was 4.4 thousand million forints.[11]

The financial situation of local self-governments, their scope for action and willingness to levy taxes were significantly modified by Section 209 (4) of the Act on the budget of the Republic of Hungary for the year of 1999, which defined the amount of central government grants allocated to local self-governments having regard to their tax revenue raising capacity. In accordance with this, the amount of the potential, theoretical tax revenues of local self-governments was calculated into the amount of allocated state funding and thereby local self-governments were indirectly forced to increase the role of local taxes. The practice relating to the examination of tax revenue raising capacity was also upheld by Decision No. 48/2001 (XI. 22) of the Constitutional Court. As a result, it could be observed that among the ever growing local tax revenues the taxation of real estates also showed

[10] Act on Local Self-Governments, § 1 (5)

[11] Géza Dankó, *Összegzés a helyi önkormányzatok pénzügyi helyzetének és gazdálkodási rendszerének ellenőrzéséről [Summary report on the revision of the financial situation and system of financial management of local governments]*, Állami Számvevőszék (State Audit Office of Hungary), April 2012.

an increase. At the same time, with regard to building and land property taxes, local self-governments endeavoured, on the one hand, to impose taxes rather on non-domestic property, and on the other hand, to levy proportionate taxes, imposing a community tax of rather low rate on natural persons. However, approximately one fifth of local self-governments did not introduce any local taxes, because they took into account the presumed unfairness of the given tax type, the paying capacity of the inhabitants of real estates and they self-critically evaluated the public services provided by local governments and the underlying principle of equivalence. Instead of the local inhabitants they often attempted to impose real estate taxes rather on the proprietors of holiday homes or foreign real estate owners.

Act C of 1990, being in force even today, empowers local self-governments to levy a building tax and a land property tax on real estates, the amount of which has been determined by local governments in a fixed amount or on the basis of the adjusted sales value, not exceeding the maximum statutory tax rate. Of the built structures located in the area of jurisdiction of a given local government, buildings and parts of buildings used for domestic or non-domestic purposes are subject to the payment of a building tax and the tax liability applies to all rooms and spaces of the building, regardless of their intended purpose and utilization. Under the Hungarian regulation in force, in the case of the building tax, the owner or co-owners of the real property are regarded as the persons subject to the tax liability, while in the case of the personal community tax the owner or tenant of the privately-owned property are both considered as being subject to taxation. This approach is generally accepted also in international comparison, but both in Great Britain and France this tax is to be paid by the tenant exclusively. A particular characteristic of the Hungarian Act is that it manifests social sensitivity when it provides for a wide range of exemptions, thereby practically reducing the tax base. However, this tax base is still broader than that in the Western models, because the taxation of real estates used for private and business purposes is not sharply separated, while e.g. in common law jurisdictions higher tax burdens are imposed on business property. For this very reason, in the latter countries a social movement has begun reflecting the intentions of business property owners, who proclaim that this approach is unfair, because it constitutes taxation without representation, since the system of local government elections does not grant legal persons the right to vote. However, the business sector also benefits from local public services and their profits, therefore many consider it only too natural to contribute to the local budget.

On the analysis of tax liabilities one may conclude that the Hungarian system also determines the commencing date of the tax payment liability in harmony with the international practice when it provides that the obligation arises from the first day of the year following the issue of the occupancy permit or the retrospective building permit (building approval certificate).

The legal institution of tax suspension was introduced for elderly disabled people from 2004 by Section 14/A, which, in fact, meant a temporary tax exemption. The elderly person is entitled to tax suspension until the end of his or her life, the payment of the tax may take place only as a result of a change in ownership or succession, but in that case the tax is imposed on the new owner or heir as a deferred tax increased with interest. In the Hungarian system, the basis for the tax is the net floor space of the building or the adjusted sales value of the real estate depending on the decision of the local government. If the net floor space of the building is taken as the tax base, the maximum amount of the annual tax is 1100 Ft/m^2, while if the adjusted market value of the real estate is the starting point, then the upper limit of the tax is 3.6% of the adjusted market value. It must be noted that the value-based "ad valorem" taxation was chosen only by four local governments.[12] The land property tax established by Section 17 of the Act also functions as a classical real estate tax, where the person subject to the tax liability is the owner and the tax is imposed on unbuilt parcels of land within municipal and planning area boundaries and the part of land belonging to a building which is in excess of the usual local land size. The tax base is the area of the parcel of land in square meters or its adjusted market value (the maximum amount of the yearly tax is: 200 HUF/ m^2/year or 3% of the market value). The personal community tax payable by private individuals is also classified as a real estate tax which is levied on apartments owned or leased by them, the amount of which may be maximum 17,000 HUF per year.

3. Unsuccessful attempts at the taxation of elements of wealth

3.1 The failure of the regulation of 2005

Act CXXI of 2005 on luxury tax, which was to take effect on 1 January 2006, appeared as a new element in addition to the real estate taxes operating in the system of local taxes. In accordance with the political intentions of the time, the Act was adopted by Parliament with the aim to give greater effect to the constitutional obligation of contribution to public revenues on the basis of one's wealth. A central element of this statute was the levy of surtax on luxury real estates the market value of which exceeded one hundred million forints. Pursuant to the text of the Act, the exact amount of the tax was to be determined by calculating 0.5% of the part exceeding one hundred million forints, which amount was to be paid on the basis of self-assessment. However, due to the prohibition of double-taxation, the person

[12] They are the following: Érd, Németkér, Nyíregyháza, Paks

subject to the tax liability could deduct from this amount other real estate taxes paid by him locally.

The group of taxpayers subject to the tax was determined similarly as in the case of local taxes, the only difference being that this tax was levied exclusively on the real estates of private individuals and not on real estates used for business purposes. The tax base was the calculated value which resulted from the market value of the real estate multiplied by adjustment coefficients defined by the Act. In order to determine the tax a relatively simple value definition system was established based on the common law model, concerning which it was emphasized that it was not aimed at the definition of the real market value.

It is to be noted that real estate taxation based on the market value taken in the proper sense can be found exclusively in California. In the Hungarian system the market value was determined by the local governments within the limits laid down by the Act by taking into consideration some amending and adjusting factors. In this method of calculation emphasis was placed on the location of the real estate, the quality of its structure and building materials, equipment, age, and comfort level. Concerning the definition of the market value, the legislator rendered it possible to have regard to the local price situation. At the same time, to the detriment of local governments, from the luxury tax the taxpayer could have deducted the building tax and, in the case of holiday homes, even the tourism tax already paid by him to the local governments. Already at the time of its adoption the Act caused heated debates and experts indicated in advance that a value definition based on self-assessment, but at the same time overriding self-assessment, seemed unconstitutional. The Ministry of Finance made a public announcement in advance that it expected approximately 10,000 taxpayers, or tax returns, and tax revenues of 1.5-2 thousand million forints, at the same time, the reality was that until March 2007 – the time when the Constitutional Court delivered its decision – 585 tax returns had been filed nationally defining a tax revenue of 120 million forints. Out of the real estates declared for tax purposes, 535 were in the capital. The examination of tax returns revealed that this low effectiveness was further reduced by the fact that tax returns were also filed by private individuals in whose case paying a tax would not have been justified based on the value of the real estate.

With regard to the results of the luxury tax, it may be concluded that it was a complete failure because of the marketing activity, in other words, the amounts spent on the preparation of the taxpayers, and the collected tax revenue did not even cover the administrative costs. From this failure numerous lessons could be drawn concerning the Hungarian system of taxation. Firstly, one may observe serious limitations with respect to the financial situation and law-abiding attitude of members of the post-millennium Hungarian society. A system of taxation based on self-assessment and aimed at the expansion of the tax base that leans on the

discretion and active involvement of the individual could not be effectively introduced under the given conditions and through the given means. Establishing the value of the real estate is a task requiring expert knowledge, in which the majority of taxpayers could not and basically did not want to actively participate. Let us also consider how important a question is constituted by the assessment of the value of the real estate in its inhabited state, the correct evaluation of which could be controversial even for qualified experts dealing with the sale of real estates. It can be concluded that it is possible to define two preconditions concerning this type of expansion of wealth taxation. The first one is of an administrative nature, which requires a well-functioning, detailed and flexible real estate registration, while the other condition is more difficult to define, but not less important: an economic, cultural and social situation characterized by a higher level of civil, wealth and income relations.

The final collapse of the luxury tax was not, however, caused by social resistance, but by a decision of the Constitutional Court. In its Decision (AB) No. 155/2008 (XII. 17.), the Constitutional Court annulled the luxury tax. As a deficiency of the Act, the Constitutional Court recognized and pointed out the problem of the definition of the calculated value. The first remark of the Court concerned the calculation of the tax base, the legislator's presumption, which enabled municipalities and the districts of Budapest to define the minimum and maximum value of real estates relevant for taxation purposes. The local governments were permitted to determine the price per square meter of the tax object based on this guide. However, this amount was necessarily fictive and did not by all means define the real market value of the real estate in question and it provided a distorted picture of value proportions existing between the real estates. However, in this way the actual definition of wealth relations could not satisfy the principle of contribution to public revenues on the basis of wealth. Local governments could not deviate from the value limits defined by the Act, nor were they bound to take into consideration data relating to real sales prices and duties. At the same time, the regulation granted a wide scope of action to local governments to deviate in the negative direction, in other words, to the detriment of taxpayers, when assessing and determining the value of real estates.

Obviously, the legislator proceeded from the proposition that the representatives of the municipality were fully aware of the local price situation and they were able to define a tax that was close to the real market value. However, the legislator probably forgot the fact that representatives might also have selfish interests and they might not make objective decisions concerning real estate taxation, as they might also be directly affected. According to the Constitutional Court, a further problem was the lack of possibility to turn to any legal forum concerning the establishment of the tax. Thus, the law excluded the possibility of judicial review of an administrative decision. According to the Constitutional Court, this was unconstitutional, in

this range the law did not even provide for the possibility of providing proof to the contrary and this would have meant the state taxing possibly non-real, fictive income in a given case, thereby violating Article 70/I of the Constitution in force at the time. Another criticism expressed by the Court was that the presumption relating to the value of real estates was not established on the basis of real market data and so it could have provided a wide scope of action for defining the tax arbitrarily, while excluding the possibility of legal remedy. Concerning the theoretical possibility of wealth taxation, the Constitutional Court held that the principle of proportionality to taxpayers' wealth must be observed with regard to the definition of the tax base and the rate of the tax. "Tax may be imposed only on wealth that has actually been acquired, in other words, not only the real estate selected as the basis of the tax liability must exist, but also the value defined as the tax base must be a real and not a presumed value."[13]

3.2 Failure of the regulation of 2009

Act LXXVIII of 2009 was intended as a new instrument of wealth taxation, which concerned taxes levied on specific assets of high value. The scope of the tax meant to be introduced by the Act would have covered domestic property exceeding the value of 30 million forints, water and air vehicles as well as cars of high performance. Following the failure of the luxury tax, the law attempted to correct the deficiencies, albeit unsuccessfully. Similarly to the regulation on luxury tax, in this case as well, the basis for the tax was the calculated value, concerning which local governments could designate value zones based on the method known already earlier and take into account specific adjustment factors laid down by the norm. In this case as well, there was an intention to impose on taxpayers the obligation of determining the market value so that if the taxpayer determined the value of the tax object in a lower amount than the one defined by the local government, the local government could deviate from this value and establish the value ex officio. However, as opposed to the regulation on luxury tax, the taxpayer could contest this decision and challenge it in court within 30 days. It was a characteristic feature of the Act that it determined the adjustment factors so that it favoured those who lived in adobe houses facing north, older than 80 years and without any modern convenience. This approach could in itself be considered unrealistic, at the same time, it was also contrary to European Union endeavours to modernize apartments.

It was important that this new type of real estate taxation would not have been obligatory for local governments either, in other words, they remained free to decide about its introduction and rate as well as the expansion of

[13] Decision (AB) No. 155/2008. (XII. 17.) p. 15.

exemptions. The realization of this intention could be influenced significantly by the fact that this type of tax was also taken into account with regard to the calculation of tax revenue raising capacity. This could have forced local governments to apply this tax.

The most striking feature of the change was that it would have put an end to the levying of a rate-based tax, in other words, it would have changed the method of calculation of the tax base. The system elaborated by the Act was centred around the determination of the value calculated on the basis of the method that had already failed in the case of the luxury tax. The positive element of the amendment was the tax concession granted for the renovation of historic buildings. This means that the Act would have introduced taxation based on a calculated value, referring already for the umpteenth time to the constitutional requirement of contribution to public revenues in proportion to one's wealth. The detailed explanation given for Section 132 of the Act expounds: *"The methodology relating to value assessment for tax purposes does not serve to determine the precise sales or market value, but to give expression in the tax base to the value proportions of real estates in relation to each other."* At the same time, the following sentence expresses a totally opposite idea: *"Naturally, the value calculated for the purposes of taxation is not detached from the sales value, because it is based on data relating to the stamp duty payable on transfers of property for monetary consideration."* It may justifiably be argued that the legislator increased the uncertainty relating to the superficially elaborated adjustment factors by the explanation given for Section 135, since based on these words it is rather difficult to decide what the relationship between the calculated value, the sales value and the market value is. If the aim is to establish some kind of proportionality, then registering the market value is, in fact, of no significance, therefore, there is no need for a national, up-to-date real estate register, acts of real estate assessment in individual cases, real estate experts, a substantial apparatus, annual reviews, valorisation and significant expenditures. If it be the case, then one may speak, at most, of a system that is more just than the earlier system, but not a just system based on contribution to public revenues in proportion to one's wealth at all, since no attempt has even been made to find out the real value of wealth, to which one might add that real estate taxation and wealth taxation cannot be equated with each other. Real estate tax is a tax on wealth, but not a wealth tax, because it is not linked to the whole of wealth, but only one segment of it.

If the question is approached from the other side and we believe the proposition that the value considered for tax purposes "is not detached from the market value", then a socially more just system is born, since real estates are taxed based on their real value and this may demonstrate the idea that a higher level of tax obligation is linked to a higher value. However, this solution could be extremely expensive, since there is no uniform, recognized and valorised register of real estates that are located in the territory of

Hungary. If there was such a system of registration, then financial institutions would not probably devote so much attention, energy and money to the assessment of the value of real estates. It could also be dangerous to rely on the data of the tax authority, since these data are not comprehensive and, at the same time, they may also be misleading, because the value of two neighbouring real estates can be determined at first glance only by a rather superficial observer, let us only think of solar technology, marble stairs, Jacuzzis, fireplaces, the view, designed parks etc., which list could be continued endlessly. The worth of the value of a real estate is principally determined by its location, but in spite of this, it is the general view of experts that each real estate must be assessed individually, it is not possible to spare the costs of hiring an expert assessor if the real market value is to be determined. At the same time, it is impossible to finance the work of expert assessors due to the great number of real estates. On the other hand, even if this could be completed with support from the state, one must not forget that the assessment of real estates would have to be repeated every year, or at least, every five years.

Neither could one expect to define the tax base realistically by the "multi-factor product" considered as simple by the amendment. Let us imagine the situation where the taxpayer makes a statement relating to the thermal insulation capacity of walls, doors, windows, and the ceiling. One may justifiably question whether he knows precisely what has been built in and it could be interesting to note that the expensively bought thermal insulation which increases the value of the apartment – and by the way, is environmentally friendly - increases the value of the real estate, namely, the tax base, and thereby also the tax obligation. This also means that the owner of the real estate increases not only the efficiency of the energy budget and the environmentally-friendly characteristics of the real estate, but also his future tax payment obligations. This regulatory attitude goes completely against current world tendencies. As a further problem one may mention that it is unpredictable what impact the real estate tax will have on the real estate market constituting a major part of GDP growth, neither can one tell what influence it will have on regional differences between the different micro-regions.

Decision (AB) 8/2010. (I.28.) of the Constitutional Court found this amended version unconstitutional too. The judges of the Court did not criticise the fact that pursuant to the Act the sales value served as the basis for the tax payment obligation, but they had a negative opinion of the application of the method of self-assessment, in other words, of the way of calculating the tax. The Constitutional Court considered that it could have led to significant uncertainty on the part of tax-payers that if, as a result of the inaccuracy of calculation, there was a substantial difference between the value determined by them and that established by the authority, this could be sanctioned by the tax authority. Let me add that, in the case of real estates of

high value, assigning the obligation of assessing the tax to the dwellers, who in the majority of cases did not have any special competence relating to real estate selling, was a wrong solution in my opinion. As for the solution that a difference in value could lead to legal sanctions imposed by the tax authority, it was also found unacceptable by the Constitutional Court. This situation violated the principle of the rule of law, therefore, the Constitutional Court declared that it was not the general possibility of wealth taxation that was problematic, but the specific method of taxation applied in this case. The decision of the Constitutional Court did not affect the tax on vessels, aircrafts and cars, which entered into force even in its truncated form to be repealed later by the new administration in 2010 following the change of government.

4. Closing remarks

On the whole it may be stated that the theoretical, practical or material conditions are not given for introducing wealth taxation in Hungary. Society demonstrates a negative attitude toward wealth taxation, which appears as a surplus tax in the present system of taxation and does not mean the redistribution of the tax burden. This passive resistance is also manifested in the failure of the two regulations described above. Let me add that wealth taxation or its Hungarian form, the taxation of real estates, could, as a matter of fact, be more effective than indirect taxes due to the above-mentioned technical reasons and reasons concerning registration. In spite of this, it would require the reconsideration of the state budgetary system and the role of the state if uniform wealth taxation was to be introduced in Hungary without it being harmonized with the present system of local taxes.

I do not think that a general wealth tax or levy could be implemented in Hungary. Instead, it would be possible and also necessary to revise and update the provisions pertaining to real estates of the Act on Local Taxes. Concerning the present situation of wealth taxation, it may be stated that in 2012 Prime Minister Viktor Orbán repeatedly declared that he was not willing to introduce a wealth tax even under pressure from the IMF or the European Union; instead, the Government would attempt to achieve a balanced budget by expanding the tax base.

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