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## Contents

<b>APPLICATOIN OF THE PRINCIPLE OF TRUST IN THE LAND REGISTRY IN THE CONTEXT OF THE DISPOSITION OF MARITAL ASSETS</b> Hamid Mutapčić, Esad Oruč	4
<b>KOTAR SHARIA COURT TUZLA 1899 - 1929</b> Ervina Halilović	16
<b>APPLICATION OF COOPERATIVE LEARNING IN EARLY MATHEMATICS TEACHING – TEACHERS’ ATTITUDES</b> Dževad Burgić, Minela Omerović, Dina Kamber	25
<b>PROBLEMS WRITING FROM DICTATION FOR BLIND AND VISUALLY IMPAIRED STUDENTS</b> Ševala Tulumović, Branka Eškirović, Izeta Husić-Đuzić	34
<b>IMPACT OF GLOBALIZATION ON THE PERFORMANCE OF THE COMPANY: THE CASE OF COMPANIES FROM BOSNIA AND HERZEGOVINA</b> Hasan Mahmutović, Sead Talović, Safet Kurtović	40
<b>INFLUENCE OF LENGTH OF SENTENCES ON THE FREQUENCY OF SPEECH DISFLUENCIES IN CHILDREN WHO STUTTER</b> Leila Begić, Branka Babić	50
<b>MOTORIC SPEED AND MANUAL DEXTERITY OF CHILDERN WITH IMPAIRED VISION</b> Dženana Radžo Alibegović, Hurma Begić	56
<b>FUNDAMENTALS OF APPLICATION FACTOR ANALYSIS IN EDUCATION AND REHABILITATION</b> Senad Mehmedinović	61
<b>LEARNING STRATEGIES IN HIGH SCHOOL STUDENTS - DIFFERENCES WITH RESPECT TO AGE AND TYPE OF SECONDARY SCHOOL</b> Lejla Muratović	66
<b>GAME THEORY IN THE ANALYSIS OF MONETARY AND FISCAL POLICY ON THE EXAMPLE OF REPUBLIC OF CROATIA</b> Krešimir Bošnjak, Tunjo Perić	77
<b>SUCCESS OF PROFESSIONAL ORIENTATION OF DEAF PEOPLE ACCORDING TO CHOSEN OCCUPATION AND EMPLOYMENT</b> Admira Beha	83
<b>ECONOMY AND PARA-FISCAL LEVIES IN BOSNIA AND HERZEGOVINA</b> Hasan Mahmutović	91

## APPLICATION OF THE PRINCIPLE OF TRUST IN THE LAND REGISTRY IN THE CONTEXT OF THE DISPOSITION OF MARITAL ASSETS

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### ABSTRACT

*By entering into effect of the new Entity laws on the land registry, a new definition of the principle of trust is introduced, a definition that aims at the protection of the rights that have been acquired on the basis of incorrect or incomplete land registry status. However, the question arises of whether the third conscientious person will have any protection regarding the acquisition of property rights on real estate that is a part of marital assets, when such real estate is recorded in the land registry only belonging to one marital partner. In the legal theory and jurisprudence the issue of validity of the legal relation regarding the sale and the burdening of such real estate by the registered right holder has been raised. Bearing in mind the fact that in our legal system the principle of causal tradition is applied, coming to the correct position on this legal issue is very significant. Further scientific research in this area is of particular importance due to the ongoing process of the reform of land registry law, whose purpose is the reaffirmation of the land registry and the creation of legal presumptions for a faster and simpler legal disposition of real estate.*

**Key words:** *principle of trust in the land registry, principle of conscientiousness, marital assets*

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### INTRODUCTION

For a long time now the land registries in Bosnia and Herzegovina do not have the significance that they used to have under the Law on land registry of the Kingdom of Yugoslavia (in the remainder of the text: ZZK KJ). In the legal existence there exists a large disparity between the on the land registry record and off the record state of real estate. A small number of persons go through the registration of their acquired rights in the land registry. The most frequent reasons for not registering ones rights is the avoidance of tax implications, lack of due diligence or care and low awareness of the significance of such acts that exists in certain social environs. The consequence of this is the existence of incorrect (untrue) and incomplete status of the land registry, as the persons who are

registered as right holders are not the true owners of the real estate, or rather in the land registry the rights that exist off the record have not been recorded as a burden or a limitation regarding a particular piece of real estate.

After the land registry had in a large part lost the significance of an accurate and complete record of real estates and the rights on said real estate, what followed was a determined intent of the Legislator to end such a legal tradition and to ensure the legal presumption for a successful functioning of the land register and safe legal transactions in real estate. By coming into power of the new entity laws on land registries (in the remainder of the text ZZK FBiH/RS) the reform of real estate law had begun.

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The basic intent of the Legislator is to contribute to the ordering and updating of the status of the land registries through new and high quality legislative solutions, which should in the end contribute to a faster and simpler legal transaction of real estate. One of such solutions is a new definition of the principle of trust in the land registry, which aims to provide for the protection of rights acquired on the basis of incorrect and incomplete land registry status, by which they depart for the long standing jurisprudence that permanently negated the application of this principle<sup>2</sup>. However, the question arises pertaining to whether a third conscientious person will enjoy such legal protection as a consequence of acquiring ownership rights or some other limited property right on real estate that is part of marital assets, whereby such real estate is recorded in the land registry as belonging to only one marital partner.<sup>3</sup> In legal theory and jurisprudence the issue of validity of the legal relation regarding the sale and burdening of such real estate by the registered right holder is raised. Bearing in mind the fact that in our legal system the principle of causal tradition is applied, the taking of the correct position regarding this legal issue is of great significance.

<sup>2</sup>„Only by confidence in the land registry and the registration of the ownership rights in purchased real estate, a buyer can be considered to be in a stronger position in right opposed to the previous acquirer that is holding the real estate in possession, if toward him has come into power the basis for the acquisition of the right through adverse possession. A conscientious buyer of real estate is that person who, aside from investing trust in the land registry previously establishes the status of the possession of the purchased real estate.“ (Decision of the Supreme court of Serbia, Rev. 4740/92, Vuković, S., 2003). „, Person who has the legal basis of the acquisition and the possession of the real estate has a stronger right from the owner of the right of ownership registered in the land registry” (Decision of the Supreme court of Vojvodina Gž. 103/89). “When in a law suit two rights on the same real estate emerge, whereby one is a land registry registered right and a right that is based on a judicial verdict, always the stronger in right will be the one in the possession of the property, by which one should appreciate the conscientiousness of the contractual party” (Decision of the Supreme court of Serbia, Rev. 120/80)

<sup>3</sup>In marital assets the property that the marital partners have acquires by their work during the marital communion enters, as well as any revenues from such property (Family law of the Federation of B&H (in the remainder of the text PZ FBiH) and the Family law of the Republic of Srpska (in the remainder of the text PZ RS)) according to PZ FBiH marital assets are treated as co-ownership, while according to the FL RS marital assets are treated as joint ownership.

Bearing in mind the fact that in our legal system the principle of causal tradition is applied, the taking of the correct position regarding this legal issue is of great significance. By merely registering, the right of ownership is not acquired if the underlying contract is not valid according to the rules of substantive law, and that is how the principle of the causality of the registration manifests. The registration of the right of ownership can only be executed if it is based on a valid contract on the sale of the real estate, or on some other contract that can be used as a basis for the transfer or property rights (gift contract, lifelong care agreement, exchange contract and other.) This means that the registration in the land registry is causally linked to the underlying legal relation by which the seller undertakes to assume the obligation to transfer the right of ownership of the real estate to the buyer, or by the legal relation by which some of the limited property rights on real estate are formed to benefit the acquirer (such as a mortgage or easement).<sup>4</sup>

<sup>4</sup>In legal systems that have adopted the principle of causal tradition, such as the Austrian, Croatian, Serbian and Montenegrin and even our own legal system, the protection of the trust is weaker as there exists the possibility that the registration can be voided due to the lack of validity of the underlying legal relation which is why conscientious acquirers of the real estate will be safe only after it has been established that the underlying legal relation is valid, on the basis of which the registration has been executed, or when the deadlines for a successful legal claim to erase the registration have elapsed. The deficiency of this principle is reflected by the fact that it diminishes the legal safety in the legal transfer or real estate, as it provides the possibility of the erasure of the ownership right that has been registered in the land registry on the basis of a voidable legal relation. In legal systems that have adopted the principle of the abstract tradition, such as the German legal system the protection of trust is more stringent, as there does not exist the possibility of fighting the registration on the basis of the voidability of the underlying legal relation. In such cases the idea is more thoroughly applied that the law should protect the conscientious acquirers of real estate that have placed their trust in the accuracy and the completeness of the land registry registration, which affects the process of the fixing and updating of the land registry status more strongly. The impact of the principle of causal and abstract tradition at the protection of principle of trust depends on the fact whether there exists the legal possibility to dispute the validity of the registration of a conscientious acquirer of real estate of his predecessor in title due to the non-existence or the voidability of the legal relation on the basis of which the registration was executed. Therefore the difference between the causal and the abstract tradition in regard to the protection of trust comes to the fore in those legal systems in which it is possible to demand the erasure or the correcting of the void registration of the predecessor in title. On the abstract tradition in German law see: Josipović, 1995, Tratnik, & Vrenčur, 1999, broj 6-8

Jurisprudence does not have a unique position on the issue of the validity of the sales contract or the burdening of the real estate by the marital partner that is registered in the land registry as the sole right holder of a property right. Different legal understandings generate the appearance of different judicial verdicts that diminish the principle of legal certainty as one of the founding principles of the legal system of Bosnia and Herzegovina. This significantly burdens the legal transactions of real estate, which is not commensurate to the spirit of the total reform of the land registry law. This practice is not in line with the practice of the countries comprising the European union that apply the land registry system of registering real estate and rights regarding real estate. So, for example, it is known that the land registry in German law works flawlessly thanks precisely to the consistent application of the principle and the norms affirming the land registry and the application of the registration of the acquired rights on real estate.<sup>5</sup> By analyzing judicial verdicts one can notice that in the application of the law there is still the call to the principle that no one can transfer on the other more rights than they themselves have,<sup>6</sup> which is why the principle of trust in the land registry is relativized and why it practically disables its application.

<sup>5</sup>In German law for the acquisition of the registered right on the foundation of the principle of trust it is necessary to establish that the registration is requested against the person that had disposed of the registered right on behalf of the conscientious acquirer and which is registered in the land registry as the right holder of that particular right (Baur, 1978).

<sup>6</sup>Decisions of the Constitutional court of the Republic of Croatia no. U-III-493/2002 of the 13th of October of 2004 and no. U-III-103/2008 of the 14th of June, 2011. In the process of adopting new entity laws in the area of property and land registry law our Legislator had followed the legislative solutions, experience and jurisprudence of the Croatian legislator, and so in regards to the regulation of the principle of trust in the accuracy and the completeness of the land registry. Bearing in mind the evident influence of the Croatian land registry and property law at our legal system it is desirable to familiarize oneself with the content of the cited judicial verdicts, so as to point out to all the issues and misunderstandings in the application of the law. It is for that reason that in the remainder of the work the analysis of the Decisions of the Constitutional court of the Republic of Croatia will be carried out regarding the verdicts that resolve legal disputes arising from the disposition of marital assets by the persons that are registered as sole right holders of the right of ownership. This applies to the cases in which the court had decided on the acquisition of property rights that had occurred after the coming into effect of the new land registry and property law of the Republic of Croatia. This is due to the reason that one can clearly notice the continuity in the method of solving the ownership disputes of this kind, regardless of the fact that the Legislator had redefined the principle of trust and had thus disallowed the appearance of the legal position that had dominated the jurisprudence in the countries of former Yugoslavia.

One should have in mind that the earlier Yugoslovian jurisprudence, in the lack of legal solutions, and on the basis of the aforementioned principles, had altogether too broadly set the subject of research and investigation on the part of the later acquirer of the real estate (from the conscientious acquirer the investigation was demanded and not only of the land registry but also of the possessive state of the real estate) and this has disabled the conscientious acquiror of the registered person<sup>7</sup>. Aside from the low quality and inconsistent legal solutions contained before all else in the Law on property legal relations (in the remainder of the text ZOSPO) and later in the Law on ownership legal relations (in the remainder of the text: ZOVO)<sup>8</sup>, jurisprudence is pointed out as the primary cause of the destabilization of the land registry and for the abandonment of the registering of legal transactions for real estate.

In the goal of the proper understanding of the principle of trust, and honoring the intention of the creator of the new Land registry an property law, in the remainder of the paper we will indicate the fundamental difference between the ordinary and the derivative right acquiror methods, as well as the reasons why jurisprudence has permanently negated the application of the principle of trust. Only in the context of these questions is it possible to assume the appropriate attitude regarding the validity of contract on the dispossession and the burdening of real estate by the marital partner that is registered in the land registry as the sole right holder of the ownership right.

<sup>7</sup>„The acquirer of real estate will be considered conscientious if during the acquisition of the real estate he had established that the transferor had been in possession in fact of the transferred real estate. It is not enough to merely review the land registry and the cadastral deed to establish the answer to the issues of possession“ (Decision of the Supreme court of Vojvodina, Rev. 525/65, cited in Orlić, 2/1980) „The buyer has an obligation during the purchase to verify not only on the basis of inspection of the land registry who the owner is, but also in the nature (in the field) who possesses the real estate.“ (Verdict of the Supreme court of Vojvodina, rev. 272/89, cited according to Stamenković, 1991)

<sup>8</sup>Until the coming into power of the ZOSPO the principle of registration was ordered by the legal rules of land registry law in a manner that all registry rights could be acquired, transferred, limited or be disposed of only through the registration in the land registry. According to the ZOSPO the registration had created a constitutional application only in the cases where the property right on the real estate had been acquired on the basis of a legal relation. In all other cases the registration in the land registry only had a declarative effect. The identical legal solution had been ordered in the ZOVO.

## **THE BASIS OF THE CONTRACTUAL OBLIGATION OF THE SELLER AS A PRESUMPTION OF THE DERIVATIVE RIGHT ACQUISITION**

Correct (true) and up to date records on the rights regarding real estate is a presumption of unhindered legal transactions, especially in the case where the acquirer derives his or her right from the right of the predecessor (derivative right acquisition). With the derivative right acquisition the person transferring the right must be the real land registry owner for the buyer to acquire the right of ownership by registering in the land registry on a particular real estate. When the acquisition of the right of ownership on real estate is on the basis of a legal relation, then the rule that no one can transfer more rights on the other than they themselves have (*nemo plus iuris ad alium transferre potest quam ipse habet*) applies. In the cases that the seller is not the real owner of the real estate, then the sales contract will be void due to the nonexistence of the basis for the contractual obligation of the seller. This rule applies without exception in the derivative right acquisition method.

However, during the acquisition of property rights on real estate on the basis of the principle of trust in the land registry the ownership of the predecessor is not a substantive prerequisite for acquisition. This is due to in this case ownership not being derived from the ownership of the predecessor but is acquired originally, on the basis of the actual legal norm (originary right acquisition). Even though there is no basis for contractual obligation of the seller, the contract will be valid. With the originary right acquisition method the basis of the contractual obligation is not the general condition of validity of the legal relation, because the acquirer has derived its right from a person who is not the owner through the protection of the trust in the accuracy of the land registry. Conscientious acquirer by calling on the originary right acquisition method has compensated for the nonexistence of the basis of the contractual obligation, because even then a fully valid legal relation, independent of what constitutes the basis of the contractual obligation, is the foundation of the legal relation as a legal basis. It is enough that the person disposing of the right in the land registry is marked as the owner of real estate, and it is not necessary that said person be the actual owner of said real estate, considering that the legal effects of the protection of trust fixes the nonexistence of the authorization of the registered prior owner to dispose of the existing registered right, because the conscientious acquirer is

protected, who, by trusting in the accuracy of the land registry had considered that the registered prior owner is the actual owner (Mutapčić, 2016). The unchanging presumption that the registered prior owner is the actual right holder of the registered right and that he or she is able to dispose of said right functions to the benefit of the conscientious acquirer. Therefore the conscientious acquirer, that had relied on the principle of protection of trust in the accuracy and completeness of the land registry will, through registration acquire property rights even though it was not registered in the land registry to benefit its actual owner, or rather regardless that the seller, for whose benefit it was registered, was its actual right holder (Mulabdić, 2007).

## **CONSCIENTIOUSNESS AS PRESUMPTION OF VALID DISPOSITION OF MARITAL ASSETS**

The key presumption of validity of a legal relation, on the basis of which the seller transfers the right of ownership to the buyer, in circumstances when the land registry status does not match the actual status regarding the real estate is the conscientiousness of such an acquirer. The same rule applies in cases of disposition of real estate that is the subject of marital assets by the marital partner that is registered in the land registry as the exclusive ownership right holder (Korać, 2009). If the acquirer is conscientious then the contract will be valid no matter the fact that the transferor is not the actual owner of the real estate. If the opposite is the case the contract will be void, which will affect the voidability of the registry that might have been done to benefit the acquirer. For the existence of conscientiousness familiarization with the registered status of the real estate and the lack of knowledge of the extra-land registry status that exist to benefit some other person is necessary (Mutapčić & Brkić, 2015), in this case to benefit the marital partner that had not been registered in the land registry as the right holder. Therefore, the acquirer will be conscientious if he did not know nor could he know that the land registry state is incorrect or is incomplete, which means that there exists a legal obligation of research of not only the registered but also of the extra-registered status of the real estate in question (ZSP FBiH/RS).

The nonbinding of the acquirer to research of the extra-registered status of the real estate does not exclude the possibility of proving its conscientiousness, if he or she, considering the circumstances of the actual case, knew or could have known that the land registry status is incorrect or incomplete (LR FB&H/RS).

However, the question of whether the acquirer will be conscientious if he or she knew that the seller is married to a person, which could indicate to the conclusion that the real estate is part of marital assets. We consider that the presumption of conscientiousness is satisfied even in circumstances when the acquirer knows that the transferor is in matrimonial union. If the opposite were true, if that fact would be qualified as a sufficient reason to demonstrate doubt in the accuracy and the completeness of the land registry, then in that case this would fundamentally change the principle of trust as a new ordinary right acquisition method for property rights in these circumstances. Such an understanding would not be in line with the needs of the modern legal system. Namely, if the acquirer, at the moment of conclusion of the legal relation, had to establish whether an object of the contract is marital assets or not, than this would considerably slow down the legal transfer of real estate. Such an understanding would also not be in line with the intent of the legislator that the lack of good faith can be transferred to someone merely because such an individual did not investigate the extra-registry status of the real estate (ZSP FBiH / RS). Based on this but also other legal solutions that treat the principle of trust one can notice that the basic intent of the legislator was to place the principle of trust to the forefront, by which the long standing jurisprudence that had previously permanently negated this form of property right acquisition is ended. "The intent of the legislator is to reduce the extra-registry acquisition would have to mean that the exploration of the extra-registry state cannot any more be considered as a condition for conscientiousness" (Povlakić, 2009). In any case it is a well-known fact that the land registry state of the real estate in the largest number of cases does not fit the actual state, which is why this fact too can have an influence to the unconscientiousness acquisition. It is precisely due to this understanding in the previous jurisprudence that had not allowed the acquisition of property rights on real estate from a person who is not the owner, which has led to general doubt in the land registry and its contents. However, the land registry performs its function precisely in circumstances where it is not in line with the possession status of the real estate, which is in the process of reform of the Land registry law has led to the promotion as a fundamental rule in the form of its basic principles.

Therefore each circumstance that can lead the acquirer in the state of doubt regarding the truth of the land registry state, and which necessarily means the active investigation of facts that exist outside of the land registry, as is the case with the fact that the registered right holder has entered into matrimonial union, is not in line with the content of the norms that consider such investigation of the extra-registry status of real estate no longer as the condition for conscientiousness, and is not in line with the intent of the legislator directed in the heading of creation of presumptions for a stable and effective land registry.<sup>10</sup>

Unconscientious acquisition exists only in the case when the acquirer knows or can know that the other marital partner is co-authorized regarding the rights on the real estate that is the subject of the disposition or of the burdening.

<sup>10</sup>Previously we had mentioned that in German law there is a high rate of accuracy of the land registry largely thanks to the consistent application of the principles and norms that affirm the land registry and to the application of the registrations of acquired rights on real estate. Conscientiousness in regard to the extra or non-registry status of the is absolutely irrelevant, considering that the acquirer is required to examine only the land registry status of the real estate (Baur, 1978). In the German legal theory the understanding that the acquirer will be conscientious even when his or her lack of knowledge in regards the possessive state of the real estate is a consequence of gross negligence is dominant, or rather, if the acquirer during the acquisition of some right regarding real estate had not paid a given amount of attention in regards to the investigation of the accuracy of the land registry that is expected from an averagely attentive person in legal transactions. To prevent conscientious acquisition on real estate aside from gross negligence, doubt or light negligence are also not sufficient. So the acquirer will be conscientious even in the case when he or she had doubted in the accuracy of the land registry data in regards the real estate he or she is acquiring or from negligence did not know of the existence of such facts (Weike, 2006, Stanković & Orlić, 2001). This legislative solution in German law is interesting compared to the solution of this issue in our own legislature. According to the entity laws on property rights conscientiousness is required in regards to the familiarization of the land registry and to the lack of knowledge of the extra-land registry status of the real estate. The condition for the lack of knowledge of the extra-land registry state is fulfilled only if the acquirer did not know nor given the circumstances could have known that the land registry status is incorrect or incomplete, meaning that for the existence of conscientiousness it is enough that the acquirer did not know that the registered land registry owner had disposed of the real estate or had delivered it to independent possession to the buyer. It flows from that reasoning that the presumption of conscientiousness of the acquirer will not be fulfilled if he or she had on the basis of certain legally relevant facts, existing outside of the land registry, still knew or had to know that the real estate did not belong to the seller.

In that case the legal relation will not produce any legal consequence, so the potentially carried out registration to benefit the acquirer on the foundation of such legal relation will be canceled. This is due to the reason that the law does not allow acquisitions that are contrary to the principle of conscientiousness and honesty.

In legal theory there exists the understanding according to which the acquirer will be considered conscientious even in those circumstances when he or she knew that the real estate is a part of marital assets. This means that it is presumed by disposing of the real estate by the marital partner that is registered as exclusive right holder it is presumed that such a legal relation was acquiesced to by the other marital partner as well. So, the third person as acquirer starts off from the presumption that such a disposition was acquiesced to by the other marital partner, and said presumption flows from the communitive life of the marital partners (Korać, 2009). We consider this understanding unacceptable for the reason that the legislator protects only those acquirers that do not know or could not know that the land registry state, in regards to the real estates on which property rights are acquired, are incorrect or incomplete.

## **PRINCIPLE OF TRUST IN INTERPRETING JURISPRUDENCE**

In the lack of the legislative solution prior Yugoslavian jurisprudence had permanently negated the application of the principle of trust. This position was founded on the thought that on the basis of the legal relation one cannot acquire the right of ownership on real estate from one who is not the owner, because no one can transfer more rights to someone else than he or she themselves do not have (the transferor must be the owner for his right of ownership to be able to be transferred to the acquirer). The reasons for these actions of the courts can be found in the status of the land registry, that it did not reflect the actual picture found in the legal records of real estates and current rights regarding real estate, as well as in the lack of quality in the legislative regulations that allowed for legal transfer of rights regarding property outside of the land registry. However, we should not forget the jurisprudence that, due to the existence of disharmonized verdicts, but also due to different interpretation of the legislative rules, had contributed to the destabilization of the land registry and its fundamental principles.

## **Land registry status of real estate**

In the older jurisprudence the legal understanding that one cannot acquire ownership or other limited property right from the person that was only the formal holder of the registered right was dominant. The courts appreciated that every later acquirer had to check the possessive state of the real estate, so as to make sure that the land registry transferor was its actual owner. This is due to the reason that often there was conflict of different legal bases for the acquisition, where more persons laid claim to the formation of exclusive ownership on the same piece of real estate. In legal disputes dealing with the conflict between the registered and the non-registered owner of the real estate, the courts would give advantage mainly to the non-registered owner, on which we discussed previously. The reason for these actions of the courts should be sought in the status of the land registry, that did not reflect the actual picture in the legal records of the real estate and the actual rights on the real estate.

It is precisely due to such land registry status of the real estate that the jurisprudence had consequently demanded conscientiousness not only in regards to the registered but also to the extra-registered status, which means that every acquirer had an obligation to investigate the possession status of the real estate as well. If it later turned out that some other person before the disputed registration had acquired the property right on the property, that was not registered in the land registry, then it would burden the conscientiousness of the later acquirer, which is why they would mostly lose ownership lawsuits of this kind. In the conflict of rights between the registered and the extra-registered owner the advantage was given to the extra-registered owner of the real estate that had a stronger legal claim for the acquisition according to the substantive law. In jurisprudence this was justified in the manner that in those cases justice was paid attention to. However, this practice of the courts had a negative impact on legal certainty, because if the acquirer aside from the facts that are registered in the land registry must also pay attention to the facts that exist outside of the land registry, he or she will never be secure in the knowledge that some right on a piece of real estate is actually acquired, regardless that he or she had registered such a right, as there can always appear a third person claiming that it had the same piece of real estate in possession in the moment when the acquirer had acquired and executed the registration of the right to the same piece of real estate in the land registry.

This understanding did not contribute to the fixing and the updating of the land registry status. On the contrary, the land registry were additionally destabilized, and extra-registry right holders were protected and demotivated to initiate procedures for the registry of extra-registry acquired rights.

It can be concluded that the disparity between the registry and the extra-registry status of the real estate is additionally contributed to by the jurisprudence by avoiding the application of the rules of Land registry law all under the excuse that the general legal circumstances (land registry records on rights in real estate are different from the actual status) were such that the principle of justice demanded this type of position. "The parallel actions of inconsequent application of the principle of registration, the possibility of extra-registry acquisition and the determination of conscientiousness that was built in the jurisprudence of former SFRY (conscientiousness was only the one who researched extra-registry state) has inescapably had as a consequence that the land registry that was not up to date" (Povlakić, 2009).

### Legislative framework

Until the coming into power of the Law on property right relations the principle of registration was regulated in the rules governing land registry rights in quite the opposite way: "Land registry rights can be acquired, transferred, limited or terminated only through the registration in the land registry" (ZZK KJ) However, the legislator and the jurisprudence had gone in a different direction and had treated the registration as a legal means of acquiry only with the acquiry based on legal relations, while in all other cases the registration of the acquired right in the land registry only had a declarative effect (ZOSPO). The identical solution was taken in the ZOVO, as in the Law on ownership and other property rights of Brčko District B&H. The lack of obligation of registration of such rights had led to the fact that it exclusively depended on the will of the right holder of a registered right if the registration against the registered person were to take place, which would most often not be done due to negligence or avoidance of payment of registration obligations (Babić, 2011).

Even though LLR FB&H / RS regulate that the property rights on real estate are acquired exclusively by registering to the land registry<sup>11</sup>, except in cases of inheritance, which represents the difference between the ZOSPO and the ZOVO, the solution of the ZSP RS/ZSP FBiH mean a return to the solutions that were known in ZOSPO and ZOVO because they regulate that the acquirer or the right of ownership that was acquired based on the law, inheritance, a valid court verdict or the final verdict of some other relevant government body, is authorized to demand the registration of such a right in the land registry. It follows that the possible acquisition of the rights of ownership and other property rights even without registration in the land registry are possible, which was the position of the previous property rights as well. It is obvious that there exists a disharmony between the land registry and property law in this regards. However, the laws that regulate property and real estate law must be in harmony, especially when the registration as a legal method of acquiry of property rights in real estate is on the line. It is necessary in the forthcoming timeframe to execute the harmonization of the rules of both the land registry and property law so as to shed light on all possible misunderstandings and doubts in the application of the law and to prevent the appearance of different legal positions in jurisprudence (Mutapčić, 2016). If the jurisprudence would apply the rules of ZZK FBiH/RS consistently, it would considerably diminish the possibility of extra-registry acquisition of rights in real estate, which would contribute to the harmonization of land registry and the possession status of real estate. It could be concluded that this is the basic intention of the creator of the land registry law and so it is necessary to harmonize rules of both the land registry and property law in this regard.

<sup>11</sup>The goal of this rule, which signifies the breaking with the up to now legal tradition, is to limit the possibility of extra-registry acquisitions of registry rights for the reason that exactly that kind of acquiry generate the appearance of the messed up land registry state. „The breaking is done with the goal of protecting the contentious acquisition by a third person on the basis of the legal relation and to sanction the missing of the registry of the extra-registry acquired rights by their holders“ (Mulabdić, 2007)-

By negating the principle of trust in the truthfulness and the completeness of the land registry in jurisprudence the position that was represented was the one of the rules of ZOSPO regarding the acquisition of the ownership right from the person who is not the owner on the basis of the legal relation can only relate to the acquisition of ownership on movable things, while from the person who is not the owner one cannot acquire the right of ownership on real estate, no matter the conscientiousness of the later acquirer.<sup>12</sup> In the lack of the legislative solution the jurisprudence had permanently negated the application of the principle of trust, by all the while emphasizing as the primary reason the protection of extra-registry acquired rights to benefit their right holders. If by these understandings, which were dominant in the previous Yugoslav jurisprudence, the fact that ZOSPO and later ZOVO, demanded registry only in the case when property rights on real estate were acquired on the basis of legal relations is taken into effect, than it is perfectly understandable why the land registry no longer has the significance it had according to the previous ZZK KJ. It is to expect that the new definition of the principle of trust in land registries will generate a different jurisprudence, because the nonobligatory research of the extra-registry rights status of real estate will stabilize the land registry and will make the legal transfer or real estate simpler and faster. The Supreme court of FB&H has already ruled on one significant verdict on the basis of art. 9 of the ZZK, by which in a completely new way conscientiousness and the principle of trust is valued, which represents the breaking with current judicial practice (Supreme court of FB&H verdict, Rev. 53 0 P 006550 from the 14th of February, 2013).

<sup>12</sup>„On the basis of a legal relation – sales contract from a person who is not the owner one cannot acquire ownership even according to the rules of property law – paragraph 367 OGZ. According to article 31. Law on property law relations for derivative acquisition of ownership a prior owner is necessary, and the acquisition from a non-owner is possible only on moveable objects“ (Decision of the Supreme court of Croatia, Rev. 1816/89 of the 1st of March, 1990) „Buyer of a real estate does not have legal title to register the ownership right if the seller was not the owner, nor did the buyer acquire ownership through adverse possession, if the real estate were conferred to the person that had acquired them previously at a public auction in the executive procedure“ (Verdict of the Supreme court of FB&H, Rev. 26/88 of the 17th of September 1988). „According to the legal rule of paragraph 367 Biz. OGZ by buying from a non-owner at a public sale (auction) one can acquire ownership only on a moveable thing and not on an immoveable thing“ (Decision of the County court Split, Gž. 1489/77 of the 27th of April, 1979) „By buying an immoveable thing from a person who is not the owner one does not get the ownership of the thing. Opposed to the real owner the buyer does not benefit that he bought the thing and had taken possession in good faith that was acquired from the owner.“ (Decision of the Federal Supreme Court Gz. 6/57 of the 15th of February, 1957. Collection of judicial verdicts (1957) Book II. Binder I. Belgrade).

## APPLICATION OF THE PRINCIPLE OF TRUST IN NEWER JURISPRUDENCE AS A RESULT OF DISPOSITION OF MARITAL ASSETS

By coming into effect of the new Entity laws on land registries the long standing jurisprudence is abandoned, which should not be judged negatively. From the extra-registry property right holders on real estate a more responsible relation to their acquired rights is demanded under the penalty of their loss of rights by the action of legal effects of the principle of trust in the land registry. The law protects conscientious acquirer by third persons, and sanctions the failure to register extra-registry acquired rights by their holders. However, through the analysis of court verdicts one can notice the continuity in the method of decisions and resolutions of ownership disputes of this kind, no matter the fact that the legislator had redefined the principle of trust and had discontinued the appearance of legal positions that were dominant in the earlier Yugoslav jurisprudence. So in the decision of the Supreme court of the Federation of B&H number: 65 0 P 049691 12 Rev, of the 29th of August, 2013 it is pointed out that the legal relation on the basis of which one marital partner had disposed of marital assets without the consent of the other marital partner is not valid in the light of rule art. 103 par. 1 of the Law on obligation relations (in remainder of the text ZOO) as it was concluded contrary to the imperative legal norm in art. 265 of the former Family law of the Federation of B&H. In the same reason the County court in Zadar in verdict no. Gž 52/99 of the 27th of November of 2001 had rejected the appeal of a buyer that had argued acquisition of ownership rights on the basis of the principle to trust in the land registry. The Municipality court in Zadar, as the court of first instance in a civil procedure had decided regarding the law suit to erase the recording of the right that was filed by the wife against a husband who was a seller and a third person that had relied on the accuracy of the land registry record, and on the basis of the sales contract had performed the recording of the acquired right in the land registry.

<sup>13</sup>In the revision procedure the Supreme court of the Federation of B&H has decided on the property right that was acquired prior to the coming into effect of the new land registry and property law.

<sup>14</sup>The redefinition of the principle of trust in Croatian law was done by the coming into effect of the Law on land registry of the Republic of Croatia (in remainder of the text ZZK RH ) and ZV RH

This was done for the reason that in the land registry as the owner of the real estate in question before the disputed registration, the registered right holder was the husband only. However, the plaintiff had demanded for it to be established that the house in question was communal property of both her and of the first respondent acquired in matrimony, and for it to be established that the sales contract between the first respondent and the second respondent was void, and due to all that for the court to order the erasure of the right of ownership of the second respondent and to record communal property of the plaintiff and the first respondent. That is how the County court in the verdict no. 530/98 of the 17th of November, 1998 had accepted the legal claim and had established that the sales contract on the basis of which the third person had performed the registration of the right in his or her benefit was not void and had acceded to the claim to order the erasure of the registration of the right of ownership of the seller and to file the right of communal ownership which was confirmed in the cited verdict of the County court in Zadar as the court of the second instance. However, the acquisition of the disputed right to benefit the second respondent had happened before the coming to effect of the ZV RH, which in the rule in art. 123 had predicted the possibility of acquiring property rights on real estate on the basis of incorrect and incomplete land registry. In the same law it had been foreseen that the solution toward the issue of acquiring change legal effects and the ending of property rights up until its coming into power are to be decided on the rules that were applied in the moment of acquisition, change, or the ending of the right and its legal effects. This means that regarding the issues of the cited dispute it was argued and disputed according to the rules of the Law on basic ownership legal relation that had not foreseen the acquisition of property rights on the basis of the principle of trust in the land registry.

However in ownership disputes of this kind, that had appeared as a result of acquisition on the basis of the principle of trust that is regulated in the new land registry and property rights of the Republic of Croatia the courts have made almost identical decisions. In such decisions the principle of trust in the land registry is again relativized, and the advantage to extra-registry right holders of property rights is given to the detriment to contentious acquirers who, relying on the accuracy and the completeness of the land registry had completed the registration of their acquired rights (decision of the Constitutional court of the Re-

public of Croatia no: U-III-493/2002 of the 13th of October, 2004 and no: U-III-821/2007 of the 20th of June, 2008) The reason for the adoption of such decisions lies in the fact that it is still the practice to not deviate from the principle that no one can transfer on the other more rights than they themselves have, no matter that in this case it is about a new ordinary right acquisition method where ownership of the predecessor is not a material presumption for valid acquisition, as well as for the understanding that the disposition by the registered marital partner is not valid in the sense of the rule art. 103 par 1 of the ZOO which was confirmed in the previously cited verdict by the Supreme court of the Federation of B&H.

Cited legal understandings in our and Croatian law that relate to the establishment of voidness of the legal relation on the disposition of marital assets by the registered person are not the result of the existence of a clear and precise rule that would indicate to such. On the contrary in the new land registry and property rights law of B&H solutions have given that, without any doubt, provide protection to the trust in the land registry to benefit third persons, no matter that this could result in the loss of a great number of extra-registry acquired rights. Anyway, the intention of the legislator was precisely the reaffirmation of the land registry in a method and a way that it should finally fulfill its function and even in circumstances when the land registry state of the real estate does not match the real state. These understandings are, "unfortunately, the result of multi-decade jurisprudence that had permanently negated this method of acquiring property rights on real estate, and in this way had further contributed to the destabilization of the land registry. The interpretation of the principle of trust is expressed in the jurisprudence before the coming into effect of the new land registry and property rights is understandable, considering that the legal solutions, contained in the previous property rights law had made possible the legal framework for such action of the courts, what with the existence of clear and precise legal rules that widened the circle of exception to the principle of registration and the principle of trust, what with the existence of legal loopholes in certain areas. A typical example of this other one is the understanding that had appeared regarding the definition of the principle of conscientiousness and the subject of the research of the later acquirer of the real estate, which is a consequence of the lack of existence of a clear and precise legal rule in one very important issue.

However, this practice is not acceptable, especially after the legal redefinition of the principle of trust in accuracy and the completeness of the land registry had been done. The ending of the extra-registry acquired rights should be understood as a sanction toward negligent and inert extra-register right holders of such rights that did not demand their registration in the main land registry, and is in no way an obligation of the legislator with the goal of their preservation. It is for that reason, in legal disputes in which debate is had and decisions are made between the land registry and extra-record rights on the same real estate that the courts should have in mind the intent of the legislator and of the entire reform of the land registry law system, whose goal is the reaffirmation of the status of the land registry and the harmonization of the land registry and possessive status of the real estate" (Mutapčić, 2016).

In the jurisprudence of the countries of former Yugoslavia other legal positions have been recorded. In the decision of the Supreme court of Slovenia, resolving the legal dispute due to the disposition of the real estate by a marital partner that was registered in the land registry as a formal right holder, the advantage was given to the rules of the land registry law, or rather to the principle of trust in the accuracy of the land registry over the rules of the family law, according to which the lower court had established the voidness of the contract and the registration in to the land registry to benefit the third person. The Supreme court had resolved the case in which as the land registry recorded owner was only one of the marital partners who was registered, and in the procedure of the executive remuneration against said marital partner the real estate was sold to the third person. The other marital partner had filed a claim against the third person and the marital partner demanding the cancelation of the contract on the disposition of the real estate and the establishment of the ownership right over the real estate to her benefit. The court of first instance had ruled in her favor and had cited the Law on marriage and familial relations of Slovenia from 1989. This court had established that the communal property on the real estate was an object of marital assets and had decided that the legal relation and the registration transferring the ownership right on the piece of real estate to benefit the third person were void. The court of second instance had overruled the court of the first instance and had rejected the claim of the plaintiff. The Supreme court of Slovenia had rejected the revision filed by the plaintiff as unfounded and had confirmed the second instance verdict. Due to the significance in the continuation we cite some of the legal positions found in the cited decision of the Su-

preme court of Slovenia: "in the cited legal matter one should carefully weigh the different interests of the parties (one of the sides most certainly is the protection of property interests of the damaged marital partners, while the other is the interest of the protection of the individual who had bought the piece of real estate trusting the land registry); in the conflict of the regulations of Family law and the Law on land registries the advantage should be given to the Law on land registries that protects the efficacy and the security of the legal transactions as a legal-political value of the higher level and significance; that in addition to such an objective reason in addition to rejecting the plaintiffs claim (the one of the wronged marital partner) speaks also a subjective reason: that the plaintiff herself had failed to register her communal property in the land registry and has failed to prevent the disposition of the other marital partner; that the party (the plaintiff) due to her personal inactivity and negligence had not in the land registry registered a right that she could have registered, cannot then through this type of lawsuit demand the finding of the execution not being allowed at "her" part of the communal property, and all considering that the third person had acted in a fair manner and had acquired his or her property in one of the ways that had been foreseen by this law" (Decision of the Supreme court of the Republic of Slovenia no: II Ips 253/2000).

Identical legal opinion was taken by the Supreme court of Serbia in the decision solving a similar legal dispute (Decision of the Supreme court of Serbia, Rev. 2981/05 of the 6th of September, 2006, Selection of jurisprudence number: 4/2008) In the explanation of this decision among others there is written: "In numerous real estate sales contracts or in the conclusion of legal relations on the burdens placed on real estate, as contractual parties there appear individuals who are married, and in those instances it is a rare occurrence that both marital partners are registered in the land registry as co-owners or communal owners. Therefore it follows that in these cases the nonregistered marital partner can challenge the contract concluded without his or her written agreement. This would result in the slowing down of the legal transactions and to seriously question the principle of legal certainty. This is true in particular due to the reason that the non-registered marital partner can be sued by the other partner who had sold the real estate or had burdened it, having changed their mind, and how through the law suit of the non-registered marital partner, and in collusion, exhibiting his or her dissatisfaction with the contract and hoping to attain the goal they on their own could not attain."

## CONCLUSION

By coming into power of the new entity laws on land registries a new definition of the principle of trust is introduced, which deals with the protection of the rights acquired on the basis of incorrect or incomplete land registry state. However, in the application of the law there does not exist a unique position regarding the application of the principle of trust in the cases of the disposition of marital assets by a marital partner that is registered in the land registry as the exclusive ownership right holder. In legal theory and jurisprudence the issue of the validity of the legal relations on the disposition or the burdening of such real estate by the registered person is actualized. This is due to the fact that the registered person is not the actual owner of the real estate, and according to some understanding, such disposition is legally qualified as not being allowed due to the non-existence of the basis of the contractual obligation of the seller. In this way the principle of trust in the land registry is actuated and given advantage over the extra-registry property right holders over conscientious acquirers who, relying on the accuracy and the completeness of the land registry had executed the registration of their acquired rights. The reason for the adoption of such decisions lies in the fact that there still is no deviation from the principle that no one can transfer on the other more rights than they themselves have, no matter the fact that in this case there is a new originary right acquisition method where the ownership of the predecessor is not the substantive presumption for valid acquisition. These understandings are, unfortunately, the result of multi-decade jurisprudence that had permanently negated this method of acquisition of property rights on real estate and in that way had additionally contributed to the destabilization of the land registry. However, this practice is not acceptable, especially after the legal redefinition of the principle of trust in the accuracy and the completeness of the land registry had been executed.

During the acquisition of property rights on real estate on the basis of the principle of trust in the land registry, the ownership of the predecessor is not a substantive presumption for the acquisition for the reason that, in that case the ownership, is not derived from the right of the predecessor but is acquired directly on the basis of the law itself. This reflects the basic difference between the derivative acquisition and the acquisition based on the principle of trust in the land registry as an originary right acquisition method. With this form of acquisition the basis of the contractual obligation of the

seller is not the general condition for the validity of the legal relation. The conscientious acquirer by calling on the originary acquisition method compensates for the nonexistence of the basis of the contractual obligation, which is why the fully valid legal relation, independent of what the basis of the contractual relation is the foundation for the legal relation as a legal basis. Therefore the conscientious acquirer, that had acted on the basis of the principle of trust in the accuracy and the completeness of the land registry, through registration will acquire the ownership right on the real estate, even though it was previously recorded to benefit the marital partner that was not the exclusive right holder of such a right. The same legal effects come into effect in the case of conscientious acquisition of some limited property right on real estate.

The law protects the conscientious acquisition by third persons, and sanctions the failure to record extra-registry acquired rights by their holders. In this way the affirmation of land registry principles is contributed to in particular the principle of registration, which will generate the harmonization of the land registry and the extra-registry status of real estate, and will speed up the legal transaction regarding real estate, and make it simpler. It is for those reasons in legal disputes in which it is discussed and decided on the conflict between the land registry and the extra-registry right over the same piece of real estate the courts must keep in mind the intent of the legislator and the total process of reform of the land registry rights, whose goal is the reaffirmation of the land registry and the harmonization of the land registry and the possessive state of the real estate.

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## KOTAR SHARIA COURT TUZLA 1899 - 1929

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### ABSTRACT

*The main topic of this work is related to the Sharia marriage law. The work has been divided into three parts, the organisation of the Sharia courts and application of the Sharia law, the procedure of joining two people in marriage and ending a marriage. The subject of the research concerns the time period during the Austro Hungarian Monarchy and the Kingdom of Yugoslavia when the Sharia law was implemented to regulate the private law relations amongst Muslims. Taking into consideration that Islam was one of the accepted religions during this period, the religious rules are separated from the state rules and according to that the Sharia courts have continued their existence, which were established on the grounds of Bosnia and Herzegovina during the Ottoman Empire. According to the norms of the Sharia law the Sharia courts were resolving the private law relations amongst Muslims. With the aim to present a full review on this topic various court decisions have been researched in the Archives of the Tuzla Canton and which are related to the Kotar Sharia court Tuzla 1899 – 1944.*

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### INTRODUCTION

After the Ottoman administration, since 1878 to 1914, Bosnia and Herzegovina was under the Austro Hungarian administration. Amongst the law sources of Bosnia and Herzegovina during the Austro Hungarian reign, amongst others, were the Sharia law, that is, the Sharia marriage law. Together with the Austro Hungarian ruling and numerous documents, such as the Constantinople convention, all religious communities had the freedom to practice their religion as well as the freedom to resolve their private law, above all family and heritage relations through the law of their religion. When it comes to the power of the court and the development of the Sharia courts it is important to mention that the courts during the Ottoman Empire were governed by the cadis. The cadis conducted court as well as administrative jurisdiction; they solved private law litigations amongst Muslims and

non-Muslims, if they ask for it, as well as criminal litigations regardless of the religion. The Sharia law was applied according to a personal principal while the state law, Kanun, was applied in accordance with the territorial principal. During the Austro Hungarian administration in Bosnia and Herzegovina Kotar courts were established as regular courts keeping in mind that within every Kotar court there is a Sharia court in charge of handling the private law relations among Muslims according to the Sharia law. Following the regulations of the Sharia law people resolved both the questions of two people entering a marriage community as well as divorcing one. When talking about the norms of the Sharia law the continuity in applying the basic sources of it is indisputable and they have also used other numerous sources which include the rules of the Sharia law.

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First of all I am referring to the Mecelle, the official codification of the Sharia law as well as many other private codifications of the Sharia law. Within the archives of the Tuzla Canton, according to the available data concerning the Kotar Sharia court in Tuzla, there are no records of couples entering in marriages apart from numerous documents where the existence or non-existence of marriage impediment are mentioned, while on the other hand there are some records relating to marriage litigations, divorces, financial support for the woman after the marriage has ended and similar.

## JUDICIARY ORGANISATION AND THE APPLICATION OF THE SHARIA LAW

„With the Ottoman conquests and the expansion of Islam during the 15th century and later, the people who lived in the Western Balkan (Bosnia and Herzegovina, Montenegro, Croatia, Kosovo, Macedonia and Serbia) came in contact with the Sharia law. (Karčić, 2005b, p. 207), The Sharia law was applied to the Muslim population in Bosnia and Herzegovina and it regulated their social and private lives. “In Bosnia and Herzegovina, which was occupied by the Austro Hungarian monarchy in 1878, Islam became a religion accepted by the law and the Sharia continued to be as powerful as it was during the Ottoman administration” (Karčić, 2005b, p. 219). The acceptance of Islam comes as a result of many proclamations directed by the Austro Hungarian rule to the population of Bosnia and Herzegovina and which were later confirmed by forming a Worldly Statute for Bosnia and Herzegovina.<sup>2</sup>

<sup>2</sup>Article 8: All citizens of Bosnia and Herzegovina are guaranteed the freedom to religion and conscientiousness. Nobody could have been persecuted nor denied their rights because of their religion. Everybody was granted the right to practice their religion in the privacy of their home while members of recognised religious organisations were allowed to practice it publicly as long as it wasn't against the public rules. According to the Constitution the recognised religious organisations were: Muslim, Serbian Orthodox, Roman and Greek Catholicism, Augsburg and Helvetic Evangelist law and Judaism. (Imamović, 2003, p261).

The Sharia law continued to be used during the Austro Hungarian reign in order to regulate all the private law relations amongst the Muslim population. In order to solve these relations amongst Muslims, the Sharia judges<sup>3</sup> utilised different sources of the Sharia law, above all the primary sources which included the Qur'an, Sunnah, Ijma and Qiyas, but also many other codifications of the Sharia law from which Medzela, the official codification of the Sharia law, had a special importance. “Codes and orders for Bosnia and Herzegovina dated 30th of October, 1883 stipulated that the cases which concern the Islamic marriage rights and cases concerning the rights and duties between parents and children come under the jurisdiction of the Kotar sharia courts, while both the processes of entering into marriage and divorce are conducted in front of an imam, that is *cadi*” (Durmišević, 2008, p. 88.).

The function of the judge in the Ottoman Empire was conducted by the *cadi* within his distric court, however, within the reforms conducted by the Ottoman Empire there was also a reform concerning the judicial system. “Firstly mixed courts are formed, then commercial courts and in the end the courts of civil jurisdiction. As far as the Sharia courts were concerned their jurisdiction was regulated by the Sharia Court Application Act” (Durmišević, 2008, pp. 91-92). The Sharia courts continued their practice during the Austro Hungarian rule by forming a Confirmation and Domain Act of Sharia courts (Codes and orders for Bosnia and Herzegovina (1883), Sarajevo, World Press). The following fall under the jurisdiction of the Sharia courts: a) Duties, which relate to the Mohammedan marriage act, if both the husband and wife belong to the Mohammedan Sharia without any differences, regardless of whether it is a matter of property or other duties; b) in the same vicinity discussing or resolving all duties connected to the rights and obligations between the Mohammedan parents and children; c) discussing about the inheritance of the Mohammedans and its division, if it consists of Mulk-property (movable or immovable property, which are defined as Mulk property); d) discussing and resolving all the lawsuits regarding inheritance previously mentioned, as well as lawsuits regarding the records (properties donated to charity and other individuals as stipulated in the testament), or other regulations formed in case of death. (Codes and orders for Bosnia and Herzegovina, 1883, Article 10).

<sup>3</sup>The Sharia court staff in Bosnia and Herzegovina during this period was educated in the Sharia court school in Sarajevo, founded by the Austro Hungarian administration in 1887. This school was the first centre for educating the modern Muslim intelligence in Bosnia and Herzegovina. (Karčić, 2005, p. 225)

First instance cases were governed by judges of individuals while the complaints were governed by the Council of the Sharia Supreme Court consisting of four judges. In 1906 the Act of Kotar Courts Organisation in Bosnia and Herzegovina was formed (Codes and orders for Bosnia and Herzegovina, (1885), Sarajevo, World Press) which passed the duties of the Kotar courts acting as Sharia courts to the Sharia Kotar courts which were a division of the Kotar court.

With the forming of the Kingdom of Serbs, Croats and Slovenians, later known as the Kingdom of Yugoslavia, the same position and freedom to religion of the recognised religious institutions were kept.<sup>4</sup> The Vidovdan Constitution accepted the division of the church from the mosque and guaranteed the freedom to conscience and religion.

The religious institutions got the status of public institutions with a special position in the country with privileges and authorities to conduct certain duties in the name of the country.<sup>5</sup> Within the Vidovdan Constitution it was stipulated that the marriage was protected by the (Vidovdan Constitution, Article 28. [http://projuris.org/RETROLEX/Ustav%20kraljevine%20SHS\\_Vidovdanski%20ustav%20%281921%29.pdf](http://projuris.org/RETROLEX/Ustav%20kraljevine%20SHS_Vidovdanski%20ustav%20%281921%29.pdf) – accessed 05/13/2015). Besides this, it was determined that the judicial authority is governed by the state courts, where there is no regulation that excludes the authority of spiritual courts when it comes to marriage questions, hence, the rule that the same state which existed before the constitution was accepted (Vidovdan Constitution, Article 48). This meant that the spiritual court authorities of recognised religions in Bosnia and Herzegovina had the authority when it came to marriage issues of their believers, if it is not a matter of legal property rights in which case the authority belonged to the public courts (See more, Karčić, 2005, p. 88). Within the Vidovdan Constitution it was stipulated that the marriage was protected by the (Vidovdan Constitution, Article 28. [http://projuris.org/RETROLEX/Ustav%20kraljevine%20SHS\\_Vidovdanski%20ustav%20%281921%29.pdf](http://projuris.org/RETROLEX/Ustav%20kraljevine%20SHS_Vidovdanski%20ustav%20%281921%29.pdf) – accessed 05/13/2015). Besides this, it was determined that the judicial authority is governed by the state courts, where there is no regulation that excludes the authority of spiritual courts when it comes to marriage questions, hence, the rule that the same state which existed before the constitution was accepted (Vidovdan Constitution, Article 48).

<sup>4</sup>During the First World War, under the influence of the European public opinion, an idea for the protection of civil, religious and language minorities was created. For the SHS Kingdom this obligation was kept in the peace agreement with Austria, which the Main federal and united forces signed with this country in Saint Germain on the 10th of September, 1919. Besides the general regulations on the minority protection, the contract included regulations concerning the Muslims defined in Article 10. It stipulates that the SHS Kingdom is taking over the obligation to regulate the family and private status of Muslims, appointing the Reis-el-ulema, protection of mosques, cemeteries and other religious establishments, as well as providing the necessary benefits to the waqfs and other charitable institutions (Karčić, 2005a, p. 34)

<sup>5</sup>The Kingdom had inherited a segmented legal system, that is, a legal particularism, which was defined by a paralleled existence of multiple legal domains in the same country territory: Croatian-Slovenian and Dalmatian-Slovenian, Vojvodina and Međumurje, Serbia, Montenegro and Bosnia and Herzegovina. The diverse legal system also conditioned a disharmonious application of the law. Together with the Serbian lived the Austrian, Hungarian, Sharia and Montenegrin law. This legal variety was specific not only for the private sphere, that is public law, but also for the general Criminal law, especially for regulating family relations, where the last ruling was given by the religious institutions, causing the most complicated plots and collisions by trying to resolve problems amongst people of different religions. (Kraljevina SHS i njeni narodi - [http://www.znaci.net/00001/93\\_2.pdf](http://www.znaci.net/00001/93_2.pdf) - accessed 05/13/2015)

This meant that the spiritual court authorities of recognised religions in Bosnia and Herzegovina had the authority when it came to marriage issues of their believers, if it is not a matter of legal property rights in which case the authority belonged to the public courts (See more, Karčić, 2005, p. 88)

“The period from 1918 to 1929 is characterised by maintaining the existing state of applying the Sharia law and making various attempts to uniformly solve this issue for the entire territory of the country. These attempts were not successful until 1929 which is why the Sharia law in Bosnia and Herzegovina was conducted by the cadis, the Sharia judges”. (Karčić, 2005b, p. 234)

## THE PROCEDURE OF ENTERING A MARRIAGE

“Marriage is a contract of a unified life between two parties of opposite sexes which is concluded in a particular form with the aim to: morally fulfil and improve the husband and bear children” (Begović, 1936). According to Islam, marriage is a part of the Sharia religious right because it is founded on the basis of the Sharia law and it falls under the public law, hence it is a type of free contract which creates commitments, duties and rights for both spouses.<sup>6</sup> In order for two people to be joined into marriage it is necessary that they are single, mentally healthy, old enough to get married and that it is their free will, that there is no relation between them which is according to the Sharia a marriage impediment. Here we are talking about the necessary material conditions for getting married. In order for a Sharia marriage to be valid it is necessary to fulfil certain formalities which refer to a specific norm, and that is the statement from both spouses that this decision is their free will and the presence of two witnesses.<sup>7</sup>

<sup>6</sup>The marriage law includes legal rules which refer to marriage. Marriage is the legal basis of a family, and represents an ethical relation between the two parties who are in it. However, taking into consideration the aims and consequences of marriage, this unity does not only exist within the morale sphere, but also the law, which according to its legal elements gives it a general external characteristic (Sladović, 1926).

<sup>7</sup>The Sharia does not stipulate a specific form or place for joining two in marriage. The mentioned formality stipulated consists of the fact that the husband and wife should present their observations about joining the marriage in front of witnesses. A valid marriage can be formed only if there are no marriage impediments. Marriage can be joined conditional, but the condition has to be valid. (Sladović, 1926, p. 48)

The statement of will from both spouses is directed towards entering the marriage and it must be given by both spouses at the same time and at the same place otherwise it has no legal grounds. There will be no marriage if the husband has made an offer at one place and the wife accepted it at another. The conditions asked for while entering the marriage are the offer of a marriage community, accepting the marriage obligations, declaration of the marriage community which must be given at the same place and at the same time, freely and wholly, and the presence of witnesses.<sup>8</sup> “The presence of the witnesses has for a goal to prove the marriage, which is an important relation for gaining many rights. The statements of the able witnesses serve as valid evidence of the existence of the marriage existence and duties.” (Begović, 1936, p. 65).

Sharia law recognises marriage impediments which, if they exist, prevent the validity of the marriage. “The following are considered as absolute impediments: being related (blood, related by in-laws or by milk), number of wives, marriage status of the wife, different religions, unworthiness, excessive divorces and iddah” (Festić, 1998, p. 142).

Kinship as a marriage impediment – there are three types of kinship that are considered to be impediments when joining a Sharia marriage, blood kinship, in-law kinship and milk kinship.

<sup>8</sup>When it comes to the Sharia law relation concerning the concubinage it is necessary to mention that the Islamic marriage law stipulates a way in which two individuals of opposite sexes can live in a community as husband and wife. Living in this kind of unity outside the defined rules is forbidden according to that marriage law, and it is partially under the authority of the cadi to try and separate such individuals who live in such communities. In such cases the Sharia law is appointed upon a made claim. (Sladović, 1926, p. 48)

“It is forbidden for two individuals to be joined into marriage if they are directly related, regardless of its level. If they are indirectly related, it is forbidden to be joined into marriage with a sister, cousin (on the sister’s or brother’s side) and aunt” (Džananović, 2004).

In-law kinship was introduced as a marriage impediment due to moral reasons, in order to ensure respect between the relatives of the spouses.<sup>9</sup> Milk kinship is a special marriage impediment specific for the Sharia law and it is formed between the baby on one side and the wet nurse and her relatives on the other side, if the nursing was conducted during the first two years of the baby’s life.<sup>10</sup>

Number of wives as a marriage impediment – the Sharia law allows a man to live in marriage with four women at the same time, where these women can be of those religions to which he is allowed to get married. There are opinions amongst the Islamic lawyers that according to the Sharia monogamy is a rule, but that polygamy is only allowed in special cases. When it comes to polygamy there are certain rules and limitations that have been set, a man who has four wives must be morally able to live with four women, provide them with equal opportunities and support them.<sup>11</sup>

<sup>9</sup>Marriage affinities and adultery are considered permanent marriage impediments. In this case adultery is equal to the marriage relation. In contrast to the accidental legal interpretation of affinities, there is another difference and that is that amongst Muslims only the man is taken into consideration in this instance and only towards female ascendants and descendants of the wife. In-laws include mother-in-law, step daughter, step mother, as well as wives of sons and their offspring. (Sladović, 1926, p. 55)

<sup>10</sup>According to the mentioned ayahs and Hadith, Islamic lawyers have drawn out conclusions of who can be related by milk. This kinship includes: mother and all wet nurses (regardless of the lineage and degree of kinship), daughter and her daughters (granddaughters) by milk regardless of the kinship degree, sister by milk (from both the mother’s and father’s side), sister’s daughter by milk, brother’s daughter by milk, the sister of the mother’s father by milk, son’s wife by milk and father’s wife by milk. (Džananović, 1976, p. 12)

<sup>12</sup>The statistics taken in the Arabian Islamic countries on the entering marriage and divorce point out that the percentage of those who have married two or more wives is negligible and barely reaches one percent. The reason for this is very clear, social progress and the increased standard of life as well as the increased schooling and healthcare expenses (Mustafa es-Sibai, 2004, p. 99).

As far as the first wife is concerned she cannot forbid her husband to take a second wife but contracting is allowed, mostly during the marriage, that her marriage will be over if he takes another wife.<sup>12</sup>

The marriage status of the wife as an impediment – polygamy applied to men while women were only entitled to monogamy, she could be married only to one man.<sup>13</sup>

Difference in religion as a marriage impediment – the position of almost every religious law is that a different religion is considered to be an impediment. “The Islamic law has principally adopted this fact as a marriage impediment. This principal is completely implemented in the case of Muslim women, because she can only marry a Muslim man. However, this is not the case when it comes to Muslim men. He is allowed to be joined in marriage not only with a Muslim woman but also a Kitabia, a woman of the Christian or Jewish religion.” (Begović, 1936). A man is forbidden to marry a non-believer, a polytheistic or member of any sect that opposes the founding principles of practicing a religion (believing in one God, Prophets and the Books presented).

<sup>12</sup>In most Muslim countries polygamy was limited after the 50’s in the 20th century. Family legislations of the Muslim countries today have three ways in which they resolve the questions of polygamy. In Turkey, Cyprus and Tunisia polygamy has been abolished. There is a group of countries where polygamy is not abolished: Saudi Arabia, Qatar, Bahrain, Oman, Mauritania, Sudan and Brunei. In all other Muslim countries many different measures are being taken in order to try and abolish polygamy (for entering a polygamous marriage there are many conditions that need to be met, for example, court permission, that the first wife is terminally ill and unable to give birth, that she agrees with her husband taking another wife, to submit evidence of the ability to treat all the wives equally, etc.) (Begović, 2005, p. 33)

<sup>13</sup>Two sisters or two cousins who are in such a degree of kinship cannot be in marriage relation to one man at the same time. Therefore, two sisters cannot be married to the same man at the same time, unless one of them dies or is let go. (Sladović, 1926, p. 55)

The main reason why a Muslim woman is not allowed to marry a Christian or a Jew is because in such a marriage she does not have the conditions to fulfil her religious duties and raise her children in the spirit of Islam.<sup>14</sup>

Iddah as a marriage impediment – this marriage impediment is related to the woman. Iddah is a term which defines the post-marriage period after a divorce or after the death of the husband when she cannot marry another man for some time (unless she returns to her first husband). The duration of this period or the iddah depends on the way in which the marriage has ended, through divorce or death, as well as if the woman is pregnant or not. If the marriage ended due to the death of the husband, the woman is obligated to wait the period of four Hijri months and ten days, and if she is pregnant until birth. If the marriage ended due to divorce, the woman must wait the period of three month cycles or three Hijri months, if she is pregnant then until birth. These post-marriage periods have been introduced in order to avoid eventual paternity disputes.<sup>15</sup>

<sup>14</sup>Every speech concerning mixed marriages in Islam comes down to the conclusion that a marriage can be formed between a Muslim man and a non-Muslim woman, but only if she is a Christian or Jew. However, one Islamic lawyer says, that such a marriage “is an evil to our religious community, even though these marriages are allowed according to the Sharia law, or to be more precise, endured.” Another, with a more gentle opinion, says that such a marriage “even though permitted, is not a desirable and nice thing.” The ability for a Muslim man to marry a Kitabia (a woman of a different religion) is based on a ayah from Qur’an (El-Maide, 5) which says: “And you are allowed pure believers and honest women of those to whom the Book was given before you, when you give them their wedding presents, with the intention to marry them, not to commit adultery or make them your lovers.” (Vukšić, 2007, pp. 231-232)

<sup>15</sup>A woman who is not pregnant is obligated to stay in her husband’s house, where she was during his death and she is not allowed to move to a different house, unless there is a justified reason as is fear for her own personal safety, forced transfer, living in a rented house from which she is evicted or for which she can no longer pay rent and other reasons. Proof for that are the words of the Prophet s. a. v. s.: „Wait in the house where the news of your husband’s death have reached you.” (Conveyed by Ebu-Davud, Tirmizi, Nesai and Ibn-Majah).

(Priček, iddet, propisi o razvodu - <https://islamskiedukativni.wordpress.com/2013/01/06/pricek-iddet-propis-o-razvodu-bra-ka-2/> - accessed 05/06/2015)

According to the available data from the Archives of Tuzla Canton on the Kotar court Tuzla ruling 1899 – 1941. (Funds and collections of the Archives of Tuzla Canton, Judiciary, Kotar Sharia Court Tuzla 1899-1941) The data on forming a marriage community refer to the decisions on marriage impediments. There are numerous similar decisions, where the Kotar court as the Sharia court in Donja Tuzla, and later the Kotar Sharia court Tuzla, states that the groom has no impediments to be joined into marriage. All the available decisions of the court come down to the court’s opinion that there are no marriage impediments, mostly on the groom’s part. However, there are certain documents and data from other courts stating that there are no impediments for joining two spouses in marriage but in these documents there are certain information concerning the bride and whether there are these kinds of impediments on her part. These documents only contained the bride’s residence which was under the jurisdiction of a different Sharia court and if there were any impediments they would be referred to the court of her previous residence. Although the marriage was joined in front of a *cadi* the data of such joined marriages do not exist in the documents of the court.

## DISSOLUTION OF MARRIAGE

The Sharia law accepts the principle of marriage dissolution. “According to the Sharia the dissolution of marriage (*talak*) is a legal matter, but God does not like it” (Imamović, 2003, p. 134). There are two ways of ending a marriage, as a result of death of one of the spouses or through legal action which includes divorce and annulment. A marriage may be ended through termination, a mutual agreement, in accordance to a court ruling or annulment.<sup>16</sup>

<sup>16</sup>Because the dissolution of marriage in the Muslim community is a simple thing, many husbands have the practice to get married and divorced several times, and the Sharia courts cannot do anything about it. However, the Sharia courts can, while joining two people in marriage, try to negotiate a *mahr* in the amount which fits the opportunity and in this way also participate in regulating the marriage relations. For decades the Sharia courts have been trying with all their power to limit the dissolution of marriage as much as possible. With this as their aim they have achieved to at least avoid the situation where the women are being let go and reach an uncontested divorce. (Sladović, 1926, p. 76)

Marriage termination by natural causes occurs when one of the spouses passes away. There is also the possibility of a marriage termination due to a so-called presupposed death, in other words, when death cannot be confirmed with certainty but it can be assumed based on some facts. Upon suggestion made by interested parties the court can declare such a person deceased.<sup>17</sup>

Marriage termination is a right only allowed to the man, to a woman in some cases. It is a rule taken from Arabian customs law. The woman can terminate a marriage only if there are valid reasons and if such a right was agreed upon while entering the marriage. In order for the husband and wife to terminate a marriage certain conditions must be met. A marriage can be terminated only for valid reasons, if the husband has the ability to terminate the marriage, using the divorce formula, termination possibility and if it is the husband's intent to end the marriage. The person who wants to terminate the marriage must be an adult, mentally healthy, and able to understand the importance of this act. Termination possibility refers to the condition that only a valid marriage can be terminated and that is from the moment it started to the moment it ended.<sup>18</sup>

<sup>17</sup>We differentiate between a factual and a presupposed death. With the first, the fact of death is clearly and undoubtedly presented, which means it was determined by an authorised body. Matrimonial law consequences of such an incident are such that the living spouse, that is wife if the husband has passed away, must go through the so-called iddah which lasts for four months and ten days if the wife is not pregnant, and if she is the iddah lasts until the birth. The presupposed death happens when it cannot be determined with certainty whether the death is factual, which occurs if the person is missing for a particular period of time and it cannot be determined whether he is alive or not. (Andrić, 2008, p. 107)

<sup>18</sup>For a valid marriage termination by the will of the husband it is necessary to realise three conditions: 1) have the termination ability (allowed to an adult, mentally healthy person and a person who is fully aware of consequences of such an act). ) Some authors consider that a drunk person cannot make a valid marriage termination), 2) use the divorce formula (clear – sarih, equivocate – kinaya). A recall on the termination of marriage exists only in cases where a simple or double divorce formula was used together with the existence of some other conditions. A termination conducted in such a way does not represent an immediate end to the marriage community, but rather a form of separation, because there is a possibility that such a termination could be recalled during the period of the post-marriage waiting period. 3) Termination possibility (mostly only during the duration of the marriage) and 4) the intent of the husband to end the marriage (Habul, 2006, p. 461).

Analysing the document number 3984 dated October 6th, 1901 of the Kotar Sharia court Tuzla it is obvious that man could give a statement to the court in which they are letting the woman go although they were not obligated to do so, but was done so for the sake of keeping records and proving more easily that the marriage has ended. In one of the mentioned court statements given by a man in court, he says "I am letting my married wife go, from this moment on she is no longer my wife". An uncontested divorce of spouses is known to the Sharia law because it accepts the theory of marriage – contract. It is necessary to fulfil two conditions in order to have an uncontested divorce and those are the divorce agreement between the spouses and a justified reason, which include the inability to fulfil the marriage duties.<sup>19</sup> The consent between the spouses exists when one offers it and the other accepts it. In this case the marriage would end based on the agreement of the parties which means that they need to give their consents in a form of statements in front of witnesses or court, although there is a suggestion to give the statement in front of the court, not because of formality but because in this way it is easier to prove that the marriage has been terminated later on. Agreeing on the reimbursement is not one of the important conditions to an uncontested divorce. The reimbursement in favour of the husband is given as an equivalent to the mahr, which is the present the husband gave to the wife. The husband has the right to a reimbursement if it was agreed upon in the divorce and if he is not to be blamed for the inability to continue their lives together. The value of the reimbursement is not stipulated in the regulation but is determined by the spouses.<sup>20</sup>

<sup>19</sup>Two suras – En' Nisau and El' Bekare, always allow the usage of this institution when the spouses realise that they cannot respect the boundaries defined by God. These boundaries in theory are described as the moment when the spouses become aware that they will not be able to fulfil their marriage duties and treat one another in the way which is defined by the Sharia law. If the spouses are not able to bring satisfaction through their marriage duties this also can be seen as the basis for an uncontested divorce, which can be seen from the cited suras (Habul, 2006, pp. 462-463).

<sup>20</sup>The value, reimbursement fee is not stipulated by law. It is left to the husband and wife to define its value according to their abilities. They are advised not to negotiate a full reimbursement amount of the one paid by the husband to the wife as mahr. The subject of the reimbursement can be any obtainable object which is allowed to be owned by Muslims (Begović, 1936, p. 122).

Divorce in court is a decision mostly used by women, rarely by man, because he could end a marriage in a simpler way, by terminating it. The court reaches a decision to end a marriage in accordance with the lawsuit of one of the spouses. The husband can ask for a court divorce in the situation when the wife has broken her commitment of fidelity or obedience. In these cases, if the accusations are proven, the husband is exempted of financial support; the woman loses her right to mahr, and the right to support during iddah. "According to Islam, the woman does not have as many options to a divorce as the man does, but she has the right to a divorce and she can ask for it in certain situations which will be mentioned below and which are not a form of being let go, which depend on the will of the man, but a divorce through a court procedure" (Bušatlić, 1934, pp. 152-160) The woman can ask for a court divorce if the husband does not fulfil his marriage duties and if he is suffering from an incurable disease.<sup>21</sup> "In cases when the man is incapable to support his obedient wife (a woman who fulfils her family duties), or he is capable but does not want to support her, and her support cannot be achieved in an executive way, because the husband does not have any properties or finances from which the wife could be supported, the woman is allowed to end her marriage." (Huseinspahić, 2012, p. 172) Besides this the woman can ask for a divorce if the husband is missing, if he is absent, because he converted to a different religion or because of adultery.

There are several cases of marriage litigations in the Kotar Sharia court Tuzla, more precisely lawsuits for marriage termination. One of them, No. 10/19 dated 01/01/1919, relates to the lawsuit for marriage termination submitted by M.B. against E.Đ, asking the court to reach the decision to end the marriage because her husband had previously declared in front of two witnesses that he is terminating the marriage.

<sup>21</sup>When a woman finds her husband to be impotent (unna), incapable of a sexual intercourse, she can seek divorce under the condition that she did not know about this deficiency (flaw) and his inability to perform before entering her marriage. In this case the woman can present this fact in court if she wants to end the marriage and if the husband does not want to let her go and if he admits his deficiency in court, the court will give him a time limit of one year to work on his power and physical improvement. If after this year the husband shows no improvements and cannot perform sexually and the woman appeals to the court with the petition to end the marriage the court will order him to let her go and if he does not want to do so, the court will end their marriage (Bušatlić, 1934, pp. 152-160)

Taking into consideration that E.Đ has stated in court that he had not terminated the marriage and after many disputes, the court decided to reject the lawsuit as unsubstantial, and because of the husband's statement and the fact that he is asking the plaintiff to come back home.

Case No. 156/19 dated August 1st, 1908, relates to the marriage lawsuit of the wife F.H. against her husband I.T. where the wife is asking for support, due to the fact that the marriage was terminated, for herself and her children who were born during her marriage to the defendant. After the conducted procedure and the hearing of witnesses the Kotar Sharia court Tuzla reached a decision to rule in favour of the plaintiff, determining that the marriage community has ended, that there was a divorce and that the defendant is obligated to ensure the support asked for. After the ruling the defendant submitted a complaint to the Supreme Sharia court of Bosnia and Herzegovina in Sarajevo. After considering the lawsuit, the documents and the decision made by the Kotar Sharia court Tuzla, the final decision was reached. The Supreme Sharia court confirmed the ruling made by the Kotar court Tuzla and rejected the lawsuit as unsubstantial. Therefore, in this case the court had reached that the husband is obligated to support his wife and children after the marriage has ended.

## CONCLUSION

The Sharia law had been applied in the territory of Bosnia and Herzegovina, as an exclusive law, to regulate the private law relations amongst Muslims which includes marriage relations up until 1946 when marriage received a laic character with the passing of the Basic marriage law of the Socialist Federal Republic of Yugoslavia. During the application of the Sharia law as the exclusive law Muslims had the freedom to religion and the right to resolve their private law regulations on the ecclesiastical court, the Sharia court. Sharia courts implemented the Sharia law, the primary Sharia law, to a large degree where numerous official and private codifications of the Sharia law in all litigations were applied and had the final ruling in such courts. During the Austro Hungarian reign the Supreme Sharia court was established, as the highest jurisdiction, to which the parties could turn to if they were dissatisfied with the final ruling.

Analysing the records of the Archives of Tuzla Canton, which relate to the Kotar Sharia court Tuzla, it is noticeable that there is a vast number of documents related to marriage termination, marriage litigations, and especially concerning requests for financial support after the marriage had ended, and similar. What can be drawn as a general conclusion is that the Sharia marriage law was implemented on the territory of Bosnia and Herzegovina since the Ottoman Empire until the passing of the Basic marriage law in 1946, where the continuity of this implementation can be noticed. Even after the repeal of the Sharia courts and the implementation of the civil marriage, Muslims could enter into a religious marriage, of course in front of a religious official, by the regulations of the Sharia law but after they enter into a civil marriage.

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## APPLICATION OF COOPERATIVE LEARNING IN EARLY MATHEMATICS TEACHING – TEACHERS' ATTITUDES

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### ABSTRACT

*Cooperative learning is a modern teaching strategy in which team work and cooperation become the most important activities of the entire teaching process. The quality of interaction between students and teacher, as main participants in teaching process, is important for successful application of cooperative learning. Beside faster and longer lasting knowledge acquiring, cooperative learning develops critical and creative thinking, communication and social skills and it strengthens self-confidence. Modern methods of teaching mathematics focus on didactical principle of conscious activity above other principles. This means students are major, active factors of mathematics teaching, and not only they participate in the process of teaching, but they also participate in the selection of methods of teaching. This enhances their motivation for work during classes. This means, what is learned through cooperative learning is better used in new situations, knowledge transfer is greater and new knowledge is acquired easier and lasts longer. Specific and abstract contents of mathematics lead to different ways of applying cooperative learning in this subject. That is why we chose this subject, i.e. to explore and point out the possibilities and ways of applying cooperative learning in mathematics.*

**Key words:** cooperative learning, teaching mathematics, teacher, student

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### INTRODUCTION

Application of cooperative learning in classrooms creates more creative and encouraging atmosphere for development of students' potential. When learning in smaller groups, students develop knowledge and their intellectual and problem solving abilities, as well as critical and creative thinking.

Teacher who uses cooperative learning has the roles of organizer, helper, friend, reviewer, and a confidant to his or her students. Every teacher must, according to his or her own abilities, develop and improve professional competencies to

apply this method of work, but also other modern methods.

The importance of cooperative learning, as modern and active method of classroom work, is shown by better achievements of students, better knowledge retention, better motivation, development of social skills, establishing positive relationships between students and teacher. Although one can use cooperative learning in all school subjects, in this work we focused on importance and application of cooperative learning in early mathematics teaching.

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## TRADITIONAL MATHEMATICS TEACHING OR MODERN MATHEMATICS TEACHING

If we compare traditional and modern school, teaching and learning, we may notice great differences between them.

Traditional teaching is a combination of teacher's lectures and demonstration of teaching means and methods. One can notice domination of verbal meth-

ods, as well as dominant status of teacher, who gives prepared information, with high level of leading student's cognitive process and insufficient student's activity (Andrić, 1989).

For better understanding of given characteristics and mentioned differences, here we give a table on relationships between learning in traditional and learning in active classroom.

Table 1. Traditional teaching and student-oriented teaching (Andrić, 1989)

TEACHING	
Traditional teaching	Student-oriented teaching
Information giving	Information exchange
Facts- and knowledge-based	Critical thinking, informed decision making
Students receive information	Students question and solve problems
Formal classroom appearance	Flexible, changeable surrounding
Focus on learning to remember	Focus on understanding/application
Grading mostly through traditional examination	Different types of grading, including work on projects
Passive learning	Active inquiry-based learning
One media	Multimedia
One sense stimulation	Multiple senses stimulation

Only so-called "lower" forms of learning exist in traditional teaching. Those are the forms of learning in which student is active only at the knowledge reproduction level. It is important to emphasize that modern educationalists agree that traditional teaching has to be replaced with modern teaching, in which instead of teacher's lectures - students' discoveries will prevail, instead of teacher's tutoring – independent students' work will take place, instead of problem presentation – students will solve problems individually or in groups, instead of one-way thinking, divergent, creative thinking will happen, etc. (De Zen, 2000, p. 127).

## COOPERATIVE LEARNING AND MATHEMATICS TEACHING

The phrase cooperative learning covers two concepts: cooperativeness and learning. That is why it is important to define these two concepts.

COOPERATIVENESS – tendency to cooperate. Readiness and suitability to cooperate is a complex human characteristic which includes: tendency to work in groups, readiness to develop reciprocal (equal) relationships, certain confidence in other people, tolerance towards different opinions and attitudes, benevolence and sympathies for others, control of one's own emotions and egoistic tendencies (Potkonjak & Šimleša, 1989).

LEARNING – Learning is a psychological process which can be defined in several ways. Psychological definition of learning is: Learning is a relatively permanent change of subject's behaviour, which learns under the influence of its own experience. Pedagogical definition of learning is: Learning is knowledge acquirement, skills and habits development, or Learning is mastering the accomplishments of previous generations, i.e. adoption of generation experience (Potkonjak & Šimleša, 1989).

Results of former researches showed that students who had the chance to learn through cooperative learning learn faster and easier, and their knowledge lasts longer. The difference between cooperative learning and group work is interaction and co-dependency of all group members. It is a cooperative learning if all group members work on task implementation, i.e. problem solving, if group success depends on every member and every member's success depends on group. Eric Jensen listed five elements of cooperative learning in his book *Super – teaching* (Jensen, 2003):

1. Positive co-dependency
2. Direct interaction
3. Individual and group responsibility
4. Cooperative skills
5. Group processing.

The most used levels or ways of cooperative learning implementation in mathematics teaching are: cooperative learning approach based on classroom, cooperative learning approach based on pairs of students, and cooperative learning approach based on smaller groups, subgroups or teams. The simplest level is students' cooperation involving the entire class. This level enables application of different teaching methods and techniques, like panel discussions, brain storming, leaded fantasies, etc. The next level of students' cooperation is approach based on work in pairs. This is innovative work form which is infallible part of modern mathematics teaching. Working in pairs is very suitable for students with special needs, whether they are talented or with some learning difficulties. The last level of students' cooperation is implemented in groups. Cooperative learning happens when small groups of students work on a problem which can be solved only through cooperation of all group members. Groups can have three to six students. It is the best to have four students, because those groups have 6-way communication.

Characteristics of group work implemented through cooperative learning are: independent work of one student within the group, cooperation within the group, where every member contributes to the final result, connection between one group's work and work and assignments of entire class and careful planning of group work.

Every student in group or pair has to be active. One student encourages and controls the work of other students, but he also controls his own actions.

Students can do together the following: state the problem, gather information, make a plan to solve it and solve and check the solution of problem.

## ROLE OF THE TEACHER IN ORGANIZING COOPERATIVE LEARNING

Modern school and teaching imply application of new, modern teaching strategies with creative demands and student-oriented teaching.

When it comes to cooperative learning, role of the teacher is to create appropriate cognitive situations, to ask provocative and motivational questions, to prepare didactical material, to plan, guide, and organize work, to leave enough space and time for students for full work and mental activity (Vilotijević, 2008, p. 104).

Innovative teacher can be recognized by following trademarks: originality of ideas, he is an explorer, he uses critical evaluation, he educates himself constantly and he mastered modern technologies.

The goal of cooperative learning is not for teacher to teach students, but for students to learn on their own, while the teacher helps only when necessary. In this new role, teacher has multiple tasks: to prepare assignments, teaching means and materials, making sure there are enough materials for everyone and to decide on size and content of groups, to give every member appropriate tasks and roles, to follow the process of work of every group and to monitor contribution of every individual student in the final result, and if necessary, to correct their work and encourage students, to assess development of every individual student and to inform them on their development, making sure those notifications sound encouraging, to pay attention not only to accuracy of answers, but also the method students use to get it, to demand not the quick work on assignments, but to give them enough time to check the accuracy of their results on their own (Vilotijević, 2008, p. 104).

For students with special needs teachers have to find adequate ways of involving them into the teaching process and work with other students, and to enable them to follow, learn, and acquire knowledge in the most suitable way. Key components of organization of cooperative learning, when working with students with special needs, are involvements that include distribution of work and materials, flexible interpretation of roles and individual students' responsibilities.

## PROBLEM AND SUBJECT OF RESERACH

Previous researches showed that cooperative learning has multiple advantages, and modern school is obligated to improve teaching process by using the methods of active learning. Within the frame of our research, we have following goals:

- To determine if cooperative learning can be successfully integrated in early mathematics teaching,
- To determine advantages of applying the cooperative learning in early mathematics teaching,
- To determine difficulties and restrictions teachers encounter while applying the cooperative learning,
- To determine the possibilities of improvement of cooperative learning,
- To determine if students accept this teaching strategy.

## RESEARCH GOAL AND HYPOTHESES

Goal of our research is to investigate, determine, and critically analyse teachers' and students' attitudes towards cooperative learning in early mathematics teaching. Through this research we will determine to which extent is cooperative learning present in our teaching praxis, what are its advantages and what are the results of its application in teaching process.

H0: Cooperative learning as modern teaching strategy can be successfully used in mathematics classroom teaching.

H1: There are several difficulties and limitations in applying the cooperative learning in early mathematics teaching.

H2: Cooperative learning can be successfully used when working with students with special needs.

## METHODS, TECHNIQUES, INSTRUMENTS AND SAMPLE OF RESPONDENTS

The following methods and techniques were used in this research:

- Method of pedagogical theory analysis was used to collect materials and pedagogical theories on the topic of research.
- Descriptive method was used to describe appearances and states in education.
- Survey method is empirical, non-experimental method which was used to collect data and investigate attitudes and beliefs of teachers as participants of educational process.
- Questionnaire was used to investigate teachers' attitudes and beliefs about research problem.
- Scaling was used to get numerical data on teachers' attitudes towards cooperative learning, its advantages, methods and possibilities of application in early mathematics teaching.

Sample was made of classroom teachers from four elementary schools, two urban schools and two suburban schools, from municipality of Visoko. Those four schools were: elementary school "Safvet-beg Bašagić" from Visoko, elementary school "Kulin ban" from Visoko, elementary school "Mula Mustafa Bašeskija" from Donje Moštre and elementary school "Mehmedalija Mak Dizdar" from Dobrinje.

Table 2. Sample of respondents – classroom teachers

		Frequency	%	Cumulative %	
Valid	Urban schools	Kulin ban	17	23,3	23,3
		Safvet - beg Bašagić	18	28,3	51,7
	Suburban schools	Mula Mustafa Bašeskija	8	13,3	65,0
		Mehmedalija Mak Dizdar	17	35,0	100,0
	Total		60	100,0	

Thirty five teachers were from urban schools and 25 from suburban schools.

When it comes to the length of their service, one can

notice that the majority of them (21 teachers or 35% of all respondents) worked for 16 to 20 years as teachers.

## RESEARCH RESULTS INTERPRETATION WITH DISCUSSION

Analysis of data obtained through questionnaire and attitude scale for teachers and students

Since this research was focused on importance and possibilities of applying the cooperative learning in early mathematics teaching, we wanted to determine whether cooperative learning can be successfully used in mathematics lessons, i.e. whether there are limitations and difficulties in applying the cooperative learning and how does this strategy affects average students and students with special needs.

After statistical processing of data, we got the following information: 24 teachers (40%) answered they

know very much about the concept of cooperative learning, 33% of them know much about this concept, 25% of them know enough, and 1,67% of them know a little about it. So, we may conclude that the majority of teachers are familiar with the concept of cooperative learning.

Practical application of cooperative learning in mathematics lessons is especially important for educational praxis. When asked How often do you use cooperative learning in mathematics lessons?, majority of teachers (53,33% of them) answered they use it often, while 43, 33% of them use it sometimes.

The following table shows the distribution of answers to question "How often do you use cooperative learning" regarding different schools.

Table 3. Use of cooperative learning in mathematics lessons in different schools

		How often do you use cooperative learning in mathematics lessons?			Total	
		Often	Sometimes	Rarely		
School name	Kulin ban	F	8	6	0	14
		%	57,1%	42,9%	0,0%	100,0%
School name	Mula Mustafa Bašeskija	F	9	8	0	17
		%	52,9%	47,1%	0,0%	100,0%
School name	Mehmedalija Mak Dizdar	F	5	2	1	8
		%	62,5%	25,0%	12,5%	100,0%
School name	Safvet - beg Bašagić	F	10	10	1	21
		%	47,6%	47,6%	4,8%	100,0%
Total		F	32	26	2	60
		%	53,3%	43,3%	3,3%	100,0%

We compared these answers to see if there is a statistically significant difference in answers of urban school and suburban school teachers and we determined there is no statistically significant difference, i.e. teachers had similar responses.

After finding out how often teachers use cooperative learning, we wanted to see which type of lessons they use it with. We determined that 87,8% of teachers use cooperative learning while teaching new lessons or reviewing previous lessons.

According to teachers' beliefs (91,7%), students accept cooperative learning methods gladly. Analysing answers to this question, one can see that

students like changes in working methods, more creative and original approach to work and that is why one has to use cooperative learning method while teaching.

Based on distribution of answers to question "How well do students accept cooperative learning methods in mathematics lessons" and the results of chi-squared test ( $p > 0,05$  (0, 206)), we determined that the answers of urban and suburban schools teachers are approximately the same.

We also determined that 76,67% of teachers believe that cooperative learning can be successfully used when working with students with special needs.

We wanted to determine the category of students with which cooperative learning can be successfully used. We constructed the questions so that if teacher agreed cooperative learning can be used with students with special needs, he had to list categories of special needs where it is applicable. Based on the answers and the results of chi-squared test, we determined that there are differences between the answers of urban school and suburban school teachers. Urban school teachers said that cooperative learning can be used with students who have specific learning disabilities

(dyslexia, dyscalculia, dysgraphia), while suburban school teachers didn't say that. Similar thing happened with the talented students category. Suburban school teachers believe that cooperative learning can be used with students who have speech disorder. The answers of urban and suburban school teachers were similar in other categories.

Previous research on cooperative learning lacked data on benefits of applying cooperative learning in school. The following table shows frequencies of teachers' answers to this question.

Table 4. According to your opinion, what are the benefits of applying cooperative learning?

	Frequency	%	Cumulative %
Students acquire knowledge easier	11	16,9	16,9
Social skills	13	20,0	36,9
Development of positive characteristics (friendship, humanity, partnership, cooperation)	8	12,3	49,2
Help in learning; students help each other	3	4,6	53,8
Greater motivation to work	3	4,6	58,5
Active learning/student is active in class	12	18,5	76,9
Valid More open relationship between teacher and student	4	6,2	83,1
Explorative work of student	2	3,1	86,2
Social skills development	2	3,1	89,2
Communication development	2	3,1	92,3
Development of competitive spirit	1	1,5	93,8
Expression of thoughts by student	1	1,5	95,4
More creative teaching	3	4,6	100,0
Total	65 <sup>3</sup>	100,0	

Limiting factors teachers face when they decide to use cooperative learning have great influence on application of cooperative learning. That is why we also had this question, in order to get accurate data which can be used to improve teaching process and application of cooperative learning. Based on the results of chi-squared test, we determined there is a statistically significant difference between the answers of urban school and suburban school teachers. Both urban and suburban school teachers agree that they have a problem of too many students in one class and the lack of necessary material. Since our research was focused on

mathematics lessons, we wanted to determine which techniques teachers use in early mathematics teaching. Based on the results, we noticed teachers are familiar with and are using the cooperative learning techniques. Majority of teachers use "brainstorming" technique (25,86%), then the "jigsaw puzzle" technique (17,24%), etc. To determine the real state of cooperative learning application in schools, we asked the following question: "Do you believe cooperative learning is sufficiently used in schools?". Majority of teachers said NO (63,33%), which is quite concerning (authors' remark).

<sup>3</sup>In this question teachers listed the benefits of cooperative learning and we got more answers than we had respondents.

Table 5. Teachers' suggestions for improving cooperative learning in practice

	Frequency	%	Cumulative %	
Valid	To organize seminars for teachers	10	34,5	34,5
	To make application handbooks	6	20,7	55,2
	To provide teaching materials	3	10,3	65,5
	To create better working conditions in schools	4	13,8	79,3
	To educate and motivate teachers	3	10,3	89,7
	Financial support	2	6,9	96,6
	All schools must have equal equipment	1	3,4	100,0
Total	29 <sup>4</sup>	100,0		

Listed suggestions can serve as initial orientation on how to eliminate obstacles and improve application of cooperative learning.

Based on attitudes scale, formed in this research, and answers we got, we conclude that teachers believe cooperative learning can be used in mathematics lessons.

Also, teachers point out that students have better results when cooperative learning is applied in comparison to teaching with traditional methods. Majority

of teachers agree with this statement. Teachers also believe that cooperative learning demands greater proficiency and preparation of teachers. And the most important part is that majority of urban and suburban teachers believe cooperative learning has a positive effect on the quality of relationship between teacher and student. This attitude shows that cooperative learning is important for creating a positive atmosphere in classroom, not only among students, but also between students and teacher.

Table 6. General teachers' attitudes towards cooperative learning (descriptive statistics)

	N	Minimum	Maximum	Mean	SD
Cooperative learning can be applied in mathematics lessons in every classroom	60	0	3	,78	,715
Knowledge gained through cooperative learning lasts longer	60	0	4	1,15	,936
Cooperative learning doesn't affect the quality of relationship between teacher and student	60	0	4	2,60	1,196
Cooperative learning demands greater teacher's proficiency	60	0	4	1,20	1,038
Cooperative learning demands greater preparation of teacher	60	0	2	,78	,585

<sup>4</sup>It was an open-ended question. Teachers wrote their answers and that is why the total number of answers doesn't match the total number of respondents.

Based on the scale means, we can establish that teachers have positive attitude towards the application of cooperative learning in early mathematics teaching (0,78). They also have a positive attitude towards statement that the knowledge gained through cooperative learning lasts longer (1,15). Teachers have negative attitude towards statement that cooperative learning doesn't affect the quality of relationship between teacher and student (2,60), which means that teachers believe that cooperative learning improves relationship between student and teacher. Teachers have positive attitudes towards statements that cooperative learning demands greater proficiency and preparation of teachers (1,20 i 0,78).

We found out that teachers have positive attitude (0,57) towards the influence of cooperative learning on students. Teachers have positive attitude and believe that cooperative learning develops students' social skills, communication and freedom of thoughts (0,47). They also have positive attitude and believe that cooperative learning leads to better learning results, compared to traditional approaches to teaching.

We also calculated the Spearman's rank correlation coefficient in order to determine whether the length of teacher's service is influential factor on attitude towards the application of cooperative learning and its influence on students.

Table 7. General teachers' attitude towards cooperative learning (correlation)

Spearman's rank correlation coefficient		Cooperative learning can be applied in mathematics lessons in every classroom	Knowledge gained through cooperative learning lasts longer	Cooperative learning doesn't affect the quality of relationship between teacher and student	Cooperative learning demands greater preparation of teacher	Cooperative learning demands greater teacher's proficiency
Length of service in school	correlation coefficient	,096	,084	-,089	,131	,192
	Sig. (2-tailed) <sup>5</sup>	,467	,524	,498	,317	,141
	N	60	60	60	60	60

All correlation coefficients are very low, so we can conclude that there is no correlation between length of service and teachers attitudes.

## FINAL CONCLUSIONS

Studying the topic of cooperative learning, we got some interesting results we tried to show in this work. Having in mind that cooperative learning is organized through group work, work in pairs or sometimes with the whole class of students, teachers have to have good didactical skills, great knowledge, creativity, originality, and innovation skills.

Based on the results of our research, we got to conclusion that teachers have positive attitude towards application of cooperative learning in early mathematics lessons and that there is no difference in attitudes of teachers from urban and suburban schools. This way we confirmed our general hypothesis that cooperative

learning, as a modern teaching strategy, can be used in mathematics classroom teaching.

Limiting factors and difficulties teachers face have a great influence on application of cooperative learning. Teachers said they have problems with: lack of materials and means for work, too many students in one class, time for preparation and organization and work conditions in schools, space and technology.

This way we confirmed our first special hypothesis that there are some difficulties and limitations in applying the cooperative learning in early mathematics teaching. We can conclude that a bit more support and more financial means for schools would lead to greater application of cooperative learning in teaching process. Limiting factors and difficulties are different in urban and suburban schools.

Cooperative learning has positive effects on students with special needs since the work is done in heterogeneous groups with students of different abilities.

<sup>5</sup>Statistical significance (2-tailed). Sig. (2-tailed) shows how confident are obtained results. If Sig. (2-tailed) < 0,05, then it is a significant correlation.

Teachers claim that cooperative learning can be used with students with special needs and this way we confirmed our second special hypothesis.

Given everything we wrote in this work, our final conclusion is that it is necessary to change educational praxis in our schools by applying modern, active and innovative methods, due to all their benefits.

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## PROBLEMS WRITING FROM DICTATION FOR BLIND AND VISUALLY IMPAIRED STUDENTS

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### ABSTRACT

*Aim of this research was to get insight into mistakes that occur while blind and visually impaired students, and students with no visual disabilities, when writing by dictation. Respondents sample was consisted of three groups of students: blind (N = 51), visually impaired (N = 42) and students with no visual disabilities (N = 123). Respondents sample included students from first to fourth grade of elementary schools in Tuzla Canton as well as blind and visually impaired students from boarding schools and students from first to fifth grade in centers for blind and visually impaired children and youth, as well as population of blind and visually impaired students from first to fourth grade that are integrated into regular elementary schools in Tuzla Canton in Bosnia and Herzegovina. Obtained results have shown that in variable groups for errors estimate in variables for writing by diction of words consisting of uppercase and lowercase letters, where blind and visually impaired students mostly made mistakes in form of inability to write dictated words, grammatical errors, errors in letters and syllables: relocation, leaving out, adding, separating words and concatenating them. Level of literal development is very important for preventive acting as well as timely rehabilitation.*

**Keywords:** *Visually impaired students, Students with no visual disabilities, writing by dictation*

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### INTRODUCTION

School has always been one of the mayor roads to education. Today's society requests from schools to make every single individual get out of the mass to the level he belongs to, this means to take advantage of their natural abilities and the benefits of society in order to contribute to the society for his own and the benefit of community (Stevanovic, 2000). Modern views on student's learning in the process of organizing classes are for student to explore by learning and learn by exploring (Klafki, 1992). Listening cannot completely replace written word which implicates the need for children with visual disabilities to write. Tactile as well as

visual are rarely confronted with written word and text, which has as a consequence slower writing, insufficient or event poor spelling and grammar knowledge, they are uncertain about lexicon, poor expression (especially in written form) (Tulumovic, 2013). Some studies claim that persons with early amaurosis can have very good tactile abilities (Dangiulli & Waraich, 2002). It is often forgotten that perception of visually impaired students is incomplete, impoverished and often fragmented. Visually impaired students are not as transparent as blind students about their disabilities, which results in misunderstandings and wrong approaches.

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Experience has shown that visually impaired students have more difficulties in learning at school than blind students (Matok, 2006). Visual impairment has influence on the state of graph-motor abilities of students affected by it. When accomplishing the act of writing, hand must be able to grab precisely, it has to take specific position and utilize certain amount of power through certain amount of time (Tulumovic, 2009). Most common causes of difficulties in reading and writing abilities of students with visual impairments are: spatial orientation disorder, letter or words writing disorder, visual perception disorder, additive perception and discrimination disorder, lack of visual memory etc. (Vladisavljevic, 1984). Extremely visual perceptual and graph-motor disabilities of children with visual impairment require special attention in differential - diagnostic and rehabilitation approach with visual and motor difficulties in writing (Tulumovic, 2013).

Orthography in Bosnian language doesn't just mean spelling and orthographic norm of writing (usage of lowercase and uppercase letters, separating words at the end of the row, writing foreign names etc.), it also means grammatical and vocal norm and in a broader sense than orthographic norm requires (Gavran, 2007). Argyropoulos and Martos (2006) conducted an analysis of grammatical and orthographic errors on 16 blind students. Results have shown a lot of particularities in form of grammatical and orthographic mistakes, attitude of students towards orthography and relations between orthography and reading strategies. Manuscript of students with visual impairments is very specific and mostly graphical shaping of letters and tidiness are not as good as those of children with not visual impairments (Matok, 2006). Children have to go through systematic exercises that contain all elements of reading and writing. Every element of learning letters have to be dealt with care, and those elements are: letter recognition through analysis and synthesis of speech, letter recognition in isolation and in context, preparation of graph-motor exercise and writing graphemes (Farago, 1996). The whole process of teaching students with visual impairments is a relative factor and two different groups of students can have different visual impairments, so that literature for every child should be appropriate to its individual problems (Craig, DePriest & Harnack, 1997). The process of teaching of children with impaired vision was examined in this study, where the competence of teachers, usage of educational media and the way of

assessment was studied. The results showed a statistically significant difference between the assessment, teacher competence and use of educational media (DeMario & Lian, 2000). Vik and Fellenius came to similar results as in this study conducted on students with impaired vision, (2007) who point out that educational media for writing and transcription by visually impaired students should be appropriate and in accordance with their individual needs (Braille, black print, auditory material, etc.), in order to educate students undisturbed in schools. Dictates fall into semi-written work, where the teacher dictates certain content to students, and the students shape it by writing (Vilotijević, 1999). Bonoti, Vlachos and Metallidou (2005) conducted a study whose aim was to investigate a possible link between writing, transcribing and writing from dictation and drawing skills of students of school age in comparison with other skills within their individual levels (direction, position, left-handed, right-handed, etc.). The sample consisted of 182 students aged from 8 to 12 years. Spontaneously writing, transcribing and writing from dictation of students was tested with four different tasks of drawing. The results showed a significant correlation between the success of drawing and the results obtained in all three tasks of written expression. There was no significant difference in skills between left-handed and right-handed students. Students with lower scores in the written language have greater difficulty in continuing education, and therefore special attention should be given to the written language (Farago, 1996). A huge role in the success of writing of students with visual impairments have perceptual factors, intellectual development, teaching methods, etc. (Orlansky, 1981). In writing braille grapheme most common mistakes are incorrectly written letters, and that this error occurs in all projections of letters. The reason for this is due to under-built and fixed relief form of letters, as well as the lack of mechanized movement of fingers, and writing using Braille machine (Cvetković, 1989). The most common error in second grade students is uppercaseization of letters, punctuation and grammar (Duranović, 2006). Under the skill of writing, writing complete sentences, proper use of spelling and grammar rules in accordance with the child's age, is understood. Children with lower scores in the written language have greater difficulty in continuing education, and therefore special attention should be given to the written part of language (Tulumović, Adilović & Hadžić, 2012).

## OBJECTIVE

To examine the difference in making mistakes when writing a word by the dictates of uppercase and lowercase letters between students with and without visual impairment.

## METHODS

### Sample of respondents

The sample consists of three groups of students: blind, visually impaired and students without visual impairment, obtained from a population of students from first to fourth grade of primary schools in Tuzla Canton and the population of blind and visually impaired students residential accommodation also from first to fourth grade at the Centre for Blind and Visually Impaired Children and Youth, as well as the population of blind and visually impaired students from first to fourth grade who are integrated into regular primary schools in Tuzla Canton.

### Sample of variables

A total of 16 variables were analyzed

RIJV\_NRI\_D- inability of writing words in uppercase letters when writing from dictation; RIJV\_GRI\_D- error at the level of words (decomposed writing of parts of the same word, morphologic disgramatism); RIJV\_GSS\_D- errors at the level of letters and syllables (moving, omission, addition, no correspondence) when writing the words in uppercase letters from dictation;

RIJV\_PRG\_D- spelling mistakes when writing a word in uppercase letters from dictation; RIJV\_FFG\_D- phonological and phonemic errors when writing the words in uppercase letters from dictation; RIJV\_KNG\_D- kinetic mistakes when writing a word in uppercase letters from dictation; RIJV\_OPG\_D- optical errors when writing the words in uppercase letters from dictation; RIJV\_ISP\_D- properly writing of words in uppercase letters when writing from dictation; RIJM\_NRI\_D- inability of writing words in lowercase letters when writing from dictation; RIJM\_GRI\_D- error at the level of words (decomposed writing of parts of the same word, morphologic disgramatism), while writing words in lowercase letters from dictation; RIJM\_GSS\_D- errors at the level of letters and syllables (moving, omission, addition, no correspondence) when writing the words

in lowercase letters from dictation; RIJM\_PRG\_D- spelling mistakes when writing words in lowercase letters from dictation; RIJM\_FFG\_D- phonological and phonemic errors when writing words in lowercase letters from dictation; RIJM\_KNG\_D- kinetic mistakes when writing a word in lowercase letters from dictation; RIJM\_OPG\_D- optical errors when writing the words in lowercase letters from dictation; RIJM\_ISP\_D- properly writing of words in lowercase letters when writing from dictation.

### Method of conducting research and measuring instruments

To test writing words with upper and lower case letters by dictate, the "Diagnostic kit for testing of speech, language, reading and writing of children" was used (Bjelica and Posokhova, 2001.). Dictate of words was conducted so that a dictate to the child was held, and the child wrote it down. Writing down words with upper and lower case letters by dictate had the goal to examine the acquisition connection "speech-letter". The testing was conducted by the examiner dictating words to the child in upper and lower case, and the child wrote them down. Evaluation of writing skills by dictating words in upper and lower case was conducted qualitatively. The analysis determined the number of errors for each subject, and because of the specificity of the population that was examined (blind and visually impaired students) testing was done individually.

### Methods of data processing

The obtained data was statistically analyzed using the computer program SPSS 10.0 for Windows. In order to determine the difference in the number of errors calculated by the chi-square test. All studies were performed with a significance level of 5% (0.05).

## RESULTS

The results showed that the three groups of subjects differ by the examined variable of writing words in uppercase letters. They showed that blind students in 19.61% of cases are not able to write words in uppercase letters by dictate, and the visually impaired in 9.52% of cases.

Blind students make grammatical errors when writing by dictate in 35.29% of cases, and visually impaired students less frequently than blind students, but still very frequently 21.43%. However the results of number of errors at the level of letters and syllables (moving, omission, adding letters, forgetting letters) students with im-

paired vision had a greater number of errors, even 61.90%. Blind students had this kind of mistakes at a frequency of 43.14%. Approximately the same number of spelling errors had impaired and blind students. The feature of correct spelling of words by dictate did not have 48.78% of students without impairment.

Table 1. Differences in variables when writing by dictate of students with and without visual impairment

DKRIVSL	Students without impairment	Students with visual impairments	Blind students	Chi-square
RIJV_NRI_D	0.00%	9.52%	19.61%	<b>22.13</b>
RIJV_GRI_D	0.00%	21.43%	35.29%	<b>39.25</b>
RIJV_GSS_D	0.00%	61.90%	43.14%	<b>67.13</b>
RIJV_PRG_D	0.00%	2.38%	1.96%	<b>2.69</b>
RIJV_FFG_D	2.44%	4.76%	0.00%	<b>2.28</b>
RIJV_KNG_D	7.32%	0.00%	0.00%	<b>6.80</b>
RIJV_OPG_D	39.02%	0.00%	0.00%	<b>36.29</b>
RIJV_ISP_D	51.22%	0.00%	0.00%	<b>47.63</b>
	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	

When writing by dictate words in lower case we can also conclude that the studied groups differ. A slightly larger number of errors at the level of words (decomposed writing of parts of the same word, joined writing of parts of different words) had blind students, even 35.29%, and visually impaired students 16.67%.

Visual impaired students had a greater number of errors at the level of letters and syllables, 57.14%, than blind students, 43.14%. The feature of correct spelling of lowercase by dictate had 51.22% students without visual impairment. This feature was not present in students with visual impairments.

Table 2. Differences in variables when writing by dictate of students with and without visual impairment

DIKRIMSL	Students without impairment	Students with visual impairments	Blind students	Chi-square
RIJM_NRI_D	13.82%	19.05%	19.61%	<b>1.01</b>
RIJM_GRI_D	0.00%	16.67%	35.29%	<b>39.97</b>
RIJM_GSS_D	0.00%	57.14%	43.14%	<b>62.96</b>
RIJM_PRG_D	0.00%	2.38%	1.96%	<b>2.69</b>
RIJM_FFG_D	2.44%	4.76%	0.00%	<b>2.28</b>
RIJM_KNG_D	4.88%	0.00%	0.00%	<b>4.54</b>
RIJM_OPG_D	30.08%	0.00%	0.00%	<b>27.98</b>
RIJM_ISP_D	48.78%	0.00%	0.00%	<b>45.37</b>
	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	

## DISCUSSION

Based on the results we can conclude the importance of timely education and rehabilitation for a successful education process of blind and visually impaired students, those are appropriate to their specific needs and abilities. Students with lower scores in the written language have greater difficulty in continuing education. Usage of spelling and punctuation in writing gives a written speech a thoughtful content and the beauty of written expression. A major impact on the success in writing has age, or chronological age of the child (Vlachos & Bonoti, 2004.). Eškirović, Jablan and Vučinić (2005) came to the finding that children with low visual acuity on proximity, certainly have problems with writing letters of more complex graphical structures or their proper connectivity. When it comes to writing, an inadequate linking of words and failure to realize the relationship of letters and words in a sentence occurs. Inability of having a complete visual perception and orientation manifests in interference and distortion of letters. Difficulties in writing arise as a result of difficulties in the realization of graphomotoric acts and graphic symbolization of units of speech, so that children cannot get to the end to shape letters and words so they move them because of their inability to organize their harmonious form and sequence (Veljković, 2003). Dikić (1991) has examined the correlation of errors or difficulty in writing and visual impairment in a sample of 43 visually impaired students, who have different forms and degrees of visual impairment. The research revealed that only 23.25% of respondents had graphomotoric interference, 46.57% had significant difficulties, and 30.23% had disturbances expressed in milder form. Dikić, Eškirović and Strahinjević carried out the assessment of the maturity of the manuscript on a sample of 50 visually impaired children, older school age, using the "Scales for assessing the maturity of handwriting" by Ažiriagera, Ozias. The results showed that, in terms of maturity of manuscripts, 52% of them are one or more years behind the levels of their age, 32% is at the level of their age, and 16% are above the level of their age. There was a positive correlation between the maturity of handwriting and visual impairment as a cause of visual impairment, visual acuity, level of intelligence, age and school success. Very low results in terms of maturity of handwriting, achieved visually impaired students with changes in the optic nerve. It is en-

couraging; however, that maturity of the manuscript visually impaired children increase with increasing of their age (Eškirović, 2002). Golubovic (2000) points out that child with underdeveloped auditory perception cannot accurately perceive the word as a whole, divided them into their constituent parts, or translate voices into letters, which is necessary for proper writing. Therefore, children while writing by dictate replace, omit letters syllables and words. Difficulties in writing arise due to discord in the organization of melokinetic and constructive praxis. This is a development issue outside the practices that may occur due to poor graphic enforcement of the act of writing (Ćordić & Bojanin, 1992). For people with visual impairments literacy is imperative for achieving social equality and emancipation of their merits and abilities. This is, therefore, their basic need and a right to the educational process, which is guaranteed to them by law on education in almost all countries of the modern world. Visual impairment is therefore not the way to marginalization but illiteracy certainly is. Education that does not meet the specific needs of children with visual impairments in writing may have significant negative implications for the balance of their perceptual, graphomotoric and cognitive abilities. Prominent visual-perceptual and graphomotoric difficulties of children with visual impairments require special attention in the differential-diagnostic and rehabilitative approach to the skills and abilities.

## CONCLUSION

Based on the knowledge acquired during the development this work, as well as on the basis of the results of the research it can be concluded that, when writing words in upper and lower case by dictate blind and visually impaired students mostly made mistakes in the form of inability to write dictated words, making grammatical errors, errors at the level of letters and syllables in terms of relocating, omissions, additions, forgetting letters, decomposed writing of parts of the same word, decomposed writing of parts of the same word, that visually impaired students were much weaker. We can see that blind children and visual impaired children because of the complete absence or reduced visual perception have no basis for a visual representation of the environment by which they are largely limited in terms of written expression in relation to their peers with intact vision.

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## IMPACT OF GLOBALIZATION ON THE PERFORMANCE OF THE COMPANY: THE CASE OF COMPANIES FROM BOSNIA AND HERZEGOVINA

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### ABSTRACT

*The discourse of globalization and its effects have been the most current topic in the field of economics in recent times. However, empirical research on the impact of globalization on companies, especially in transition countries, is very scarce. This paper focuses on the study of the impact of globalization on the performance of companies in Bosnia and Herzegovina by analyzing their interrelationships. The findings, in the case of companies in Bosnia and Herzegovina, have confirmed earlier findings about the double impact of globalization by showing, on the one hand, its positive effects and, on the other hand, the negative effects on the performance of the companies. Additionally, the research results have shown that negative effects are felt more strongly in the case of small and medium-sized companies than in the case of large companies.*

**Keywords:** *globalization, firm performance, small and medium-sized companies, empirical research*

**JEL Classification:** *F 60, L 25, C 40*

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### INTRODUCTION

Although globalization is a multidimensional phenomenon, a particularly notable occurrence in most of the papers is the domination of economic aspects related to the essence of this concept, which are interpreted as a generator of the entire process. According to Oman (1999), economists view globalization through the prism of removing barriers to international economic activities. This viewpoint indicates that globalization implies widening of the scope of mutual relations between national economies i.e. increase in movement of goods, workforce, capital and foreign direct investment (Acocella, 2005; Jempa & Rhoen, 1996; Easterly, 2004) and achievement of integration

of international commodity markets (O'Rourke & Williamson, 2000). In this context, Stiglitz (2002, p. 29) defines globalization as „increasing interconnect- edness of the world's countries and nations, which has brought about a huge reduction in transport and communication costs and removal of artificial barriers to the flow of goods, services, capital, knowledge and (to a lesser extent) people across borders“. The result of these globalization processes is an exorable integration of markets, national states and technologies, as well as the spread of the free market capitalism over practically all the countries in the world (Friedman, 2000).

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Based on the aforementioned viewpoints of certain authors, it can be concluded that the key economical aspects of globalization, as a common denominator, pertain to removal of barriers to the free flow of people, goods and capital across national borders, closer interconnectedness of players on the world economic stage and achievement of integration processes. Globalization as such (determined by the said aspects) undoubtedly impacts national economies and companies worldwide. These globalization aspects create a specific context providing companies with new business opportunities, while simultaneously presenting them with new challenges they need to adapt to. In this regard, it is important for companies to recognize processes and understand trends brought by globalization in order to be able to make adequate business decisions and achieve success in the market. This particularly pertains to the companies from undeveloped and transition countries operating in an insufficiently developed and non-stimulating business environment.

Theoretical considerations of many authors analyzed the effects of globalization on companies. However, notwithstanding the numerous pieces of literature dealing with the issue of globalization and its effect on business performance of companies, there is an evident scarcity of empirical research on this subject, particularly in the Western Balkan countries. We recognized this gap and decided to carry out an empirical research on the effect of globalization on the companies from B&H. In order to study the positive effects of globalization on B&H companies, we performed the correlation-regression analysis of the relationship between independent variables defined as globalization opportunities (6 variables) and dependent variables—companies' performances (profit, sales, return on investment and company growth). Negative effects of globalization on B&H companies were studied through correlation-regression analysis of the relationship between independent variables defined as globalization threats (5 variables) and dependent variables - companies' performances (profit, sales, return on investment and company growth). The research has shown that there are significant correlations between all independent and dependent variables, i.e. we concluded that globalization has both positive and negative effects on the companies in B&H.

The paper consists of sections as follows. Section 1 provides an introduction; Section 2 provides theoretical basis and hypotheses, as well as overview of researches closely related to this paper's research

subject; Section 3 describes methodology; Section 4 provides the empirical results of the research and, finally, Section 5 contains the conclusion.

## THEORETICAL BASES AND HYPOTHESES

Many authors have noticed multiple and complex effects of globalization on the countries and companies all over the world (e.g. Acocella, 2005; Duunning, 2003; Dicken, 2004; Fridman, 2000; Gatignon and Kimberly, 2004; Gidens, 1990; Hadžiahmetović, 2011; Held, 1999; Hodžić, 2003; Mikusova, 2010; Porter, 2008; Stiglitz, 2004; Wignaraja, 2004; Karadagli, 2012). Globalization creates a specific context with direct implications on companies having positive and negative effects. According to Porter (2008), positive aspects of globalization pertain to the possibilities of acquiring inputs such as raw materials, capital and knowledge from anywhere, then spreading different activities abroad and utilization of cheaper workforce and capital, which helps achieving competitive advantage. Apart from this, globalization enables easier access to new technologies, new skills, new markets, new financial sources and, even more than ever before, better outside-oriented chances for future growth (Wignaraja, 2004). Successful enterprises perceive these enormous globalization opportunities and reap bountifully from the trends and practices that globalization provides (Obioma & Clement, 2014). These possibilities are the reason that more and more firms (not only big corporations, but also small and medium-sized companies) are striving to have an international presence, even though they face pressing challenges (Zain & Ng, 2006).

Although it provides new opportunities for companies, globalization also causes new risks for them due to intense competition among companies worldwide (Hafsi, 2002; Harvey & Novičević, 2002). Companies from developing countries are particularly exposed to risks, because commodities they produce must meet the global market criteria, primarily in terms of the price, quality and delivery standard. These global trends bring about new challenges the companies need to adapt to in order to remain competitive (Wignaraja, 2004). Apart from this, companies are also exposed to other negative effects of globalization, the strongest among them being the effects of the global economic crisis. Thus, instability in one region very quickly reflects itself on the jobs, production, savings and investments thousands of kilometers away (McGrew, 2010).

Certain authors carried out empirical research on the impact of globalization on companies (e.g. Thoumrunroje & Tansuhaj, 2007; Zain, Kassim & Al-Mohannadi, 2009; Obioma & Clement, 2014; Wignaraja 2004). Based on empirical and theoretical studies related to this subject, we have noticed the effect of two key globalization aspects on companies: globalization opportunities and globalization threats.

The aforementioned globalization aspects undoubtedly affect both the economy and companies in Bosnia and Herzegovina (B&H) and many local authors have noted these trends (e.g. Hodžić, 2003; Stojanov, 2001; Hadžiahmetović, 2011; Domazet, 2006; Kurtović, 2003a; Kurtović, 2003b; Kurtović, 2008; Mahmutović & Kulović, 2010; Mahmutović et al., 2014). Globalization and regionalization of market create strong competitive pressures on the market of B&H and simultaneously open numerous opportunities for the growth of the local companies through internationalization of business (Sendić, 2009). If the companies of B&H wish to be competitive and play a significant role in the international market and EU market in particular, they urgently need to adapt to global challenges and accept current principles and ways of doing business that are in place in the European and global companies (Mahmutović, 2010).

Notwithstanding the evident research problem, it can be concluded that the empirical research in this field in B&H, as well as in other transition countries, is rather scarce. This particular fundamental observation initiated this paper's research on the impact of globalization on the companies in B&H and their business performance. For the purpose of the research, the following hypotheses have been set<sup>2</sup>: 1) Globalization opportunities positively impact the performance of the companies in B&H and 2) Globalization threats negatively impact the performance of the companies in B&H.

## RESEARCH METHODOLOGY

Our research's main set pertaining to the observed phenomenon consists of 9,993 companies<sup>3</sup>. Empirical research has been carried out on a three-level stratified sample of N=133 companies with a confidence level of 95% and a margin of error of 5%. Sample stratification has been performed in accordance with the classification of companies into small companies with 10 to 50 employees, medium-sized companies with 50 to 250 employees and large companies with over 250 employees<sup>4</sup>. As a research instrument we used a survey questionnaire, which was distributed by e-mail to the companies chosen by means of random sampling. The questionnaire was filled out by the company owners or high-ranking executives from the top management. Measurement instrument for hypothesis testing has been taken over from Thoumrunroje and Tansuhaj (2007) (partially modified) and, in accordance with it, factors representing globalization opportunities and threats have been shown in the following tables 1 and 2. The measurement has been carried out using a 5-point Likert response scale ranging from 1 to 5.

- GO1 Globalization has increased my firm's opportunities to develop customer markets worldwide.
- GO2 Globalization has increased my firm's opportunities for trade and investment.
- GO3 Globalization has increased my firm's market potential.
- GO4 Globalization has increased my firm's opportunities to expand the firm's products and/or markets.
- GO5 Globalization has facilitated my firm's international market expansion.
- GO6 Globalization has made it easy for my firm to identify potential customers.

<sup>3</sup>According to Džafić and Bejić (2012), there are 9729 small and medium-sized companies in B&H, while the authors' calculations state that there are 264 large companies in B&H.

<sup>4</sup>Such classification according to the number of employees (as one of the parameters) has been defined by the EC Recommendations number 2003/361/EC and recommended by the European Charter for SME in the Western Balkan Countries.

<sup>2</sup>Hypotheses are inspired by Thoumrunroje and Tansuhaj (2007).

Table 1. Measurement instrument – globalization opportunities

- GO1** Globalization has increased my firm’s opportunities to develop customer markets
- GO2** Globalization has increased my firm’s opportunities for trade and investment.
- GO3** Globalization has increased my firm’s market potential.
- GO4** Globalization has increased my firm’s opportunities to expand the firm’s products and/or markets.
- GO5** Globalization has facilitated my firm’s international market expansion.
- GO6** Globalization has made it easy for my firm to identify potential customers.

Table 2. Measurement instrument – globalization threat

- GT1** Globalization has increased the difficulty in forecasting demand for the firm’s products.
- GT2** Markets have become increasingly uncertain due to globalization.
- GT3** Globalization has caused unpredictable changes in consumer purchasing patterns.
- GT4** Globalization has increased the number of competitors my company is facing.
- GT5** Globalization has increased the level of competition my company is facing.

Based on the responses provided i.e. on the level of performance aspects are given in Table 3: managers' satisfaction, the measured company per-

Table 3. Company performance aspects

**PF1**-sales, **PF2** –profit, **PF3** –return on investment, **PF4** –company growth

## RESEARCH FINDINGS

For the purpose of testing the set hypotheses by means of correlation analysis, we compared the surveyees'

responses regarding globalization opportunities and threats with the company performance and the results are shown in Figure 1.

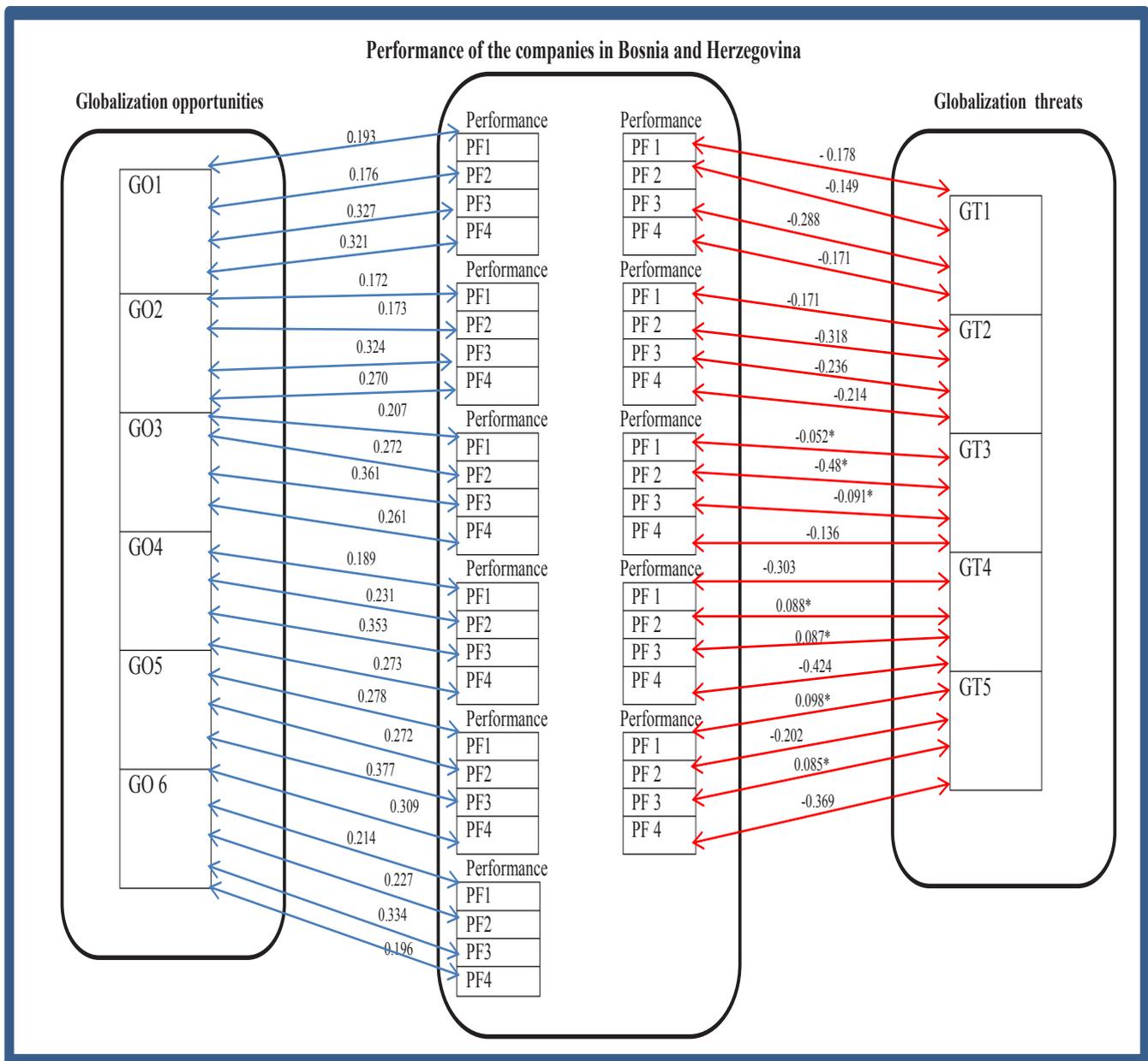


Figure 1. The impact of globalization on the companies' performance

Source: Author's own construct

\* not significant ( $p > 0.05$ )

This paper uses Cohen's interpretation of correlations (Pallant, 2007, page 135), according to which “the correlation is divided into: small  $r = 0.10$  to  $0.29$ , medium  $r = 0.30$  to  $0.49$  and large  $r = 0.50$  to  $1.0$ ”. On the basis of the correlation analysis findings we can conclude that there are significant correlations ( $p < 0.05$ ) of small and medium intensity between all the factors defined as globalization opportunities and the company performance, indicating that globalization opportunities have positive effect on the performance of the companies in Bosnia

and Herzegovina. The concerned conclusion supports the first hypothesis stating that globalization opportunities positively impact the performance of the companies in Bosnia and Herzegovina. The reliability of the measurement scale i.e. the internal consistency of the factors defined as globalization opportunities has been checked by means of Cronbach alpha coefficient, which represents a measure of how closely related are a set of items as a group. According to majority of authors, this coefficient's minimum value should not be lower than 0.6.

Table 4. The reliability of the measurement scale for globalization opportunity factors

Cronbach alpha	Number of factors
0.941	6

Based on the resulting Cronbach alfa coefficient of 0.941, we hereby conclude that this is a high value proving the internal consistency of the measuring instrument i.e. that items measure the basic (latent) construct.

In regard to the negative effects of globalization, based on the correlation analysis findings, we can conclude that the following correlations between the globalization threat factors and the company performance are not significant ( $p > 0.05$ ): Globalization has caused unforeseeable changes in the customers' behavior - Profit, Sales and Return on Investment, Globalization has increased the number of competitors - Sales, Return on Investment and Globalization has increased the level of competition- Sales, Return on Investment. Therefore, we cannot

confirm that these globalization threat factors negatively affect the companies' performance. However, we can conclude that each factor defined as a globalization threat has significant correlation of small or medium intensity with at least one aspect of company performance. The conclusion in question supports the second hypothesis stating that globalization threats negatively impact the performance of the companies in B&H.

The reliability of the measurement scale i.e. the internal consistency of the factors defined as globalization threats has also been checked by means of Cronbach alpha coefficient, which represents a measure of how closely related are a set of items as a group.

Table 5. The reliability of the measurement scale for globalization threat factors

Cronbach alpha	Number of factors
0.876	5

Based on the resulting Cronbach alpha coefficient of 0.876, we hereby conclude that this is a high value also proving the internal consistency of the measuring instrument for verification of the second hypothesis i.e. proving that items measure the basic (latent) construct.

The second hypothesis has also been verified through the analysis of the effects of the global economic crisis, as a globalization threat, on the performance of the companies in B&H. Figure 2 shows surveyees' responses regarding the negative impact of the global economic crisis on business operations of the companies in B&H in both local and foreign market.

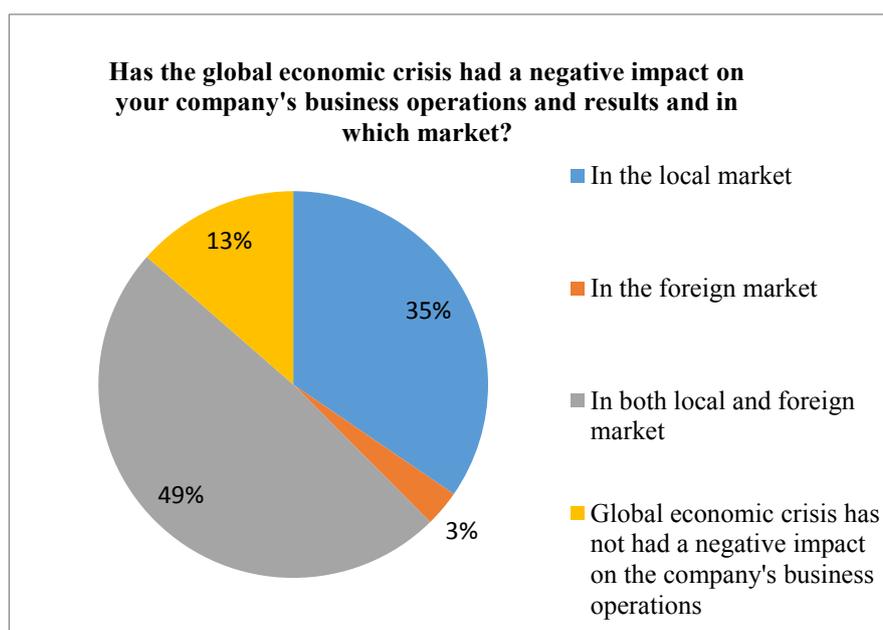


Figure 2. Negative impact of the global economic crisis on business operations and results of the companies in B&H in both local and foreign market.

Source: Author's own construct

As is evident from Figure 2, the global economic crisis has affected almost all companies, its negative effects on business operations and results having been felt by as much as 87% of the companies. Thus, 35% of surveyees stated that the crisis had negatively affected only their operations in the local market, 3% of them stated that negative impact of the crisis had only been felt in the foreign market, while 49% of survey-

ees reported registering negative effects of the crisis in both local and foreign market. Only 13% of the companies stated that the global economic crisis had not had a negative effect on their business operations and performance. Table 6 and Figure 3 below show the average effect of the global economic crisis on certain aspects of the performance of the companies in B&H expressed as percentages.

Table 6. The effect of the global economic crisis on the performance of the companies in B&H, average expressed as percentages according to the size of the company.

	Reduced scope of production/services	Reduced profit	Reduced investment	Reduced number of employees	Slower company growth	Weakened company's competitiveness
Small	25.5%	27.9%	33.9%	20.0%	23.9%	22.7%
Medium	23.9%	28.9%	35.6%	18.4%	22.5%	19.4%
Large	19.2%	19.2%	16.1%	9.7%	9.7%	9.7%
All	24.9%	27.9%	33.7%	19.2%	23.0%	21.4%

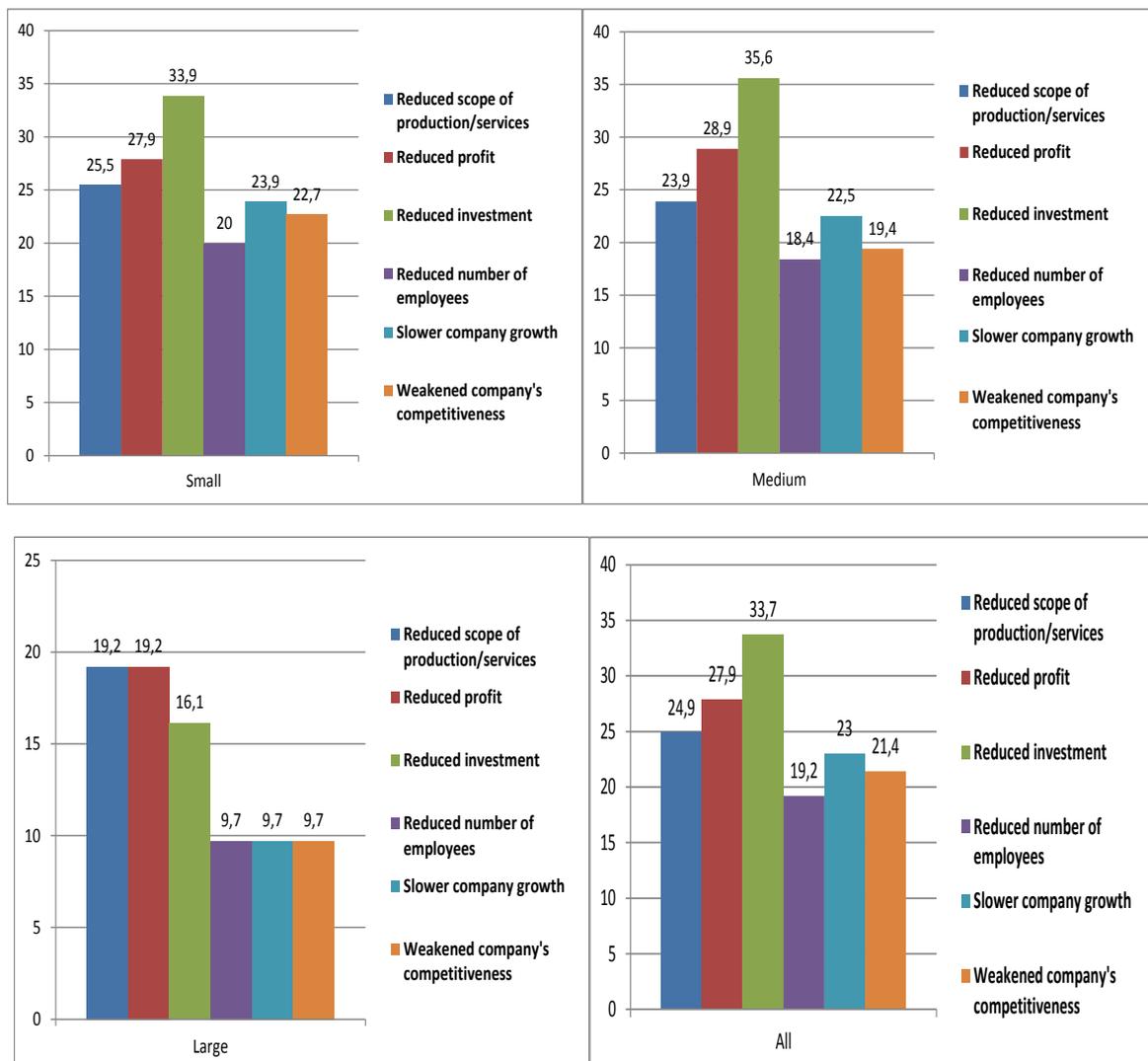


Figure 3. The effect of the global economic crisis on the performance of the companies, average expressed as percentages according to the size of the company.

Based on the findings of the analysis of the impact of the global economic crisis on the companies in B&H, we can conclude that there are significant effects on the companies' business performance. These effects range from the minimum 9.7% pertaining to the large companies' performance aspects such as reduced number of employees, slower company growth and reduced company's competitiveness to the maximum 35.6% pertaining to reduced investment for medium-sized companies. We can also conclude that the global economic crisis has equally affected the small and medium-sized companies, i.e. has had an equally negative impact on their business performance ranging from 18.4% (reduced number of employees) to 35.6% (reduced investment). The negative impact of the global economic crisis was felt less when it comes to business performance of large companies and it ranges from the minimum 9.7% (reduced number of employees, slower company growth and reduced company's competitiveness) to the maximum 19.2% (reduced scope of production, reduced profit). In comparison to the minimum and maximum impact on small and medium-sized companies, the impact of the crisis on large companies is 8.7% smaller than the minimum and 16.4% smaller than the maximum. The aforementioned data imply that the global economic crisis has had greater negative impact on small and medium-sized companies than on large companies. The above stated analysis supports the second hypothesis stating that globalization threats negatively impact the business performance of the companies in B&H.

## CONCLUSION

Based on the results of correlation analysis, we conclude that there are significant correlations at the 5% level between all factors defined as global opportunities and the companies' performances, which implies that globalization opportunities positively affect the performance of B&H companies. In the case of globalization threats, we can conclude that every factor defined as a globalization threat has a significant correlation at the 5% level with at least one company performance. Furthermore, we analyzed the negative effects of globalization through the impact of the global economic crisis on companies in B&H. The analysis results show that the global economic crisis has had a significant impact on business performance of the companies. The consequences range from the minimum 9.7% for the following performances of large companies: reduced number of employees,

slower company growth and reduced company's competitiveness to the maximum 35.6% for reduced investment for medium-sized companies. Also, we can conclude that the global economic crisis equally affected small and medium-sized companies i.e. had an equally negative impact on their business performance, ranging from 18.4% (reduced number of employees) to 35.6% (reduced investment). The negative effect of the global economic crisis was felt less in the case of large companies' performance and it ranges from the minimum 9.7% (reduced number of employees, slower company growth and reduced company's competitiveness) to the maximum 19.2% (reduced scope of production, reduced profit). In comparison with the minimum and maximum effect on small and medium-sized companies, the effect of the global crisis on large companies is 8.7% smaller than the minimum, and 16.4% smaller than the maximum. Based on the aforementioned data, we conclude that the negative effect of the global economic crisis was felt more strongly by small and medium-sized companies than by large companies.

This research's findings, taking companies in B&H as an example, confirm the findings of the previous researches on double impact of globalization, showing, on the one side, its positive effects and, on the other side, its negative effects on the companies' performance. This provides significant support to the literature and theoretical knowledge of the authors dealing with the issue of globalization and its impact on companies. These conclusions are particularly important for the managers of the companies in B&H, as well as in other transition countries, who should be prepared for doing business in the newly created global conditions. In regard to this, companies need to develop adequate strategies adapted to the global challenges in order to utilize globalization opportunities to achieve as great benefits as possible and avoid or minimize damage caused by globalization threats.

In addition, these conclusions are also relevant for all levels of government in B&H in the process of economic decision-making and drafting strategies. Economic policy measures should be aimed at creating a favorable business environment and enhancing competitiveness of the local companies. In this context, special economic policy measures should be created for the sector of small and medium-sized companies, which, according to the results of the research on the impact of the global economic crisis, have suffered more damage from globalization threats than large companies have.

These conclusions can also be observed in the context of the findings of the research done by Mahmutović et al. (2014) on the positive effects of globalization on B&H companies, stating that large companies use globalization opportunities in their business operations more than small and medium-sized companies do. The conclusion arising from this is that globalization has a more favorable impact on large B&H companies than on small and medium-sized companies, because large companies gain more benefit from globalization opportunities, while suffering less damage from globalization threats.

This paper opens up the possibility for further research in this field to take place in other countries. It would be particularly interesting to compare the findings of researches on the impact of globalization on the companies from certain developed and developing countries. This would help us establish whether globalization equally impacts all companies, i.e. if it offers equal opportunities to everybody and if everyone suffers from the negative consequences of globalization to the same extent.

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## INFLUENCE OF LENGTH OF SENTENCES ON THE FREQUENCY OF SPEECH DISFLUENCIES IN CHILDREN WHO STUTTER

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### ABSTRACT

*The main purpose of this study was to investigate whether the length of sentences has influence on the frequency of speech disfluencies for children who stutter. The participants included 30 children who stutter 19 male participants and 13 female participants, whose age ranged between 4 years and 8 months to 6 years and 11 months (56 to 83 months of age). Research was conducted in kindergartens and primary schools in Tuzla Canton in Bosnia and Herzegovina<sup>2</sup>. The test consisted of 36 sentences. In relation to the length, sentences were divided into three groups: in the first group there were 9 sentences which included 3 to 5 words, in the second group, there were 14 sentences which included 6 to 8 words and in the third group there were 13 sentences which included 9 to 11 words. Testing was conducted so that the examiner was pronouncing one sentence after which the participant repeated the same sentence. Each participant was requested to repeat exactly what he/she had heard. Speech and language pathologist has recorded all speech disfluencies in all sentences. The results showed that the sentences containing 9 to 11 words had most effects on the overall dynamics of speech disfluencies in children who stutter. The results suggest that during the process of assessment and diagnosis of children who stutter, it should be required to assess the child's ability to use complex linguistic statements and to assess the frequency of disfluencies in relation to the complexity of the sentences. Precision diagnostics would provide guidelines for the treatment of stuttering in terms of implementation of approaches and strategies which include language treatment and gradually increasing the length and complexity of statements of children who stutter during speech.*

**Key words:** sentences lengths, speech disfluencies, children who stutter

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### INTRODUCTION

Stuttering is an abnormal disruption of speech fluency and it is recognized by frequent repetitions of sounds or words, by the prolongations of sounds, or by „blocks“ that interrupt the airflow or voicing in speech (Wright, 2005). Many variables such as language, cognitive and genetic factors and emotional motor interact in complex ways in the development of stuttering and in the overt breakdowns in speech motor control that are perceived as stuttering-like

disfluencies (Conture, 2001; Smith, 1999, Smith & Kelly, 1997, Van Riper, 1982, according Macpherson & Smith, 2013). The most distinguishing characteristic of stuttering is its variability (Sawyer, Chon and Ambrose, 2008). Factors that influence the variability in stuttering have been the object of several investigations. Speech rate, utterance length and grammatical complexity are three parameters that have received considerable attention.

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<sup>2</sup>The sample was formed using data from the project "Influence of sentences lengths on the frequency of speech disfluencies for children who stutter". The project was financed by The Federal Ministry of Education and Science in Bosnia and Herzegovina.

Disfluencies during speech tend to increase with increased grammatical complexity and length (Bernstein-Ratner & Sih, 1987; Gaines, Runyan and Meyers, 1991; Logan & Conture, 1995).

Considering that stuttering usually occurs at a time when speech and language most develops, there is a lot of testing that attempt to determine the association between stuttering and sentence length (Zackheim & Conture, 2003). There is a wealth of data including behavioral findings explaining that increases in utterance length and/or syntactic complexity are associated with the increased occurrence of disfluency in children and adults who stutter (Bernstein-Ratner & Sih, 1987; Logan and Conture 1995; Sawyer, Chon and Ambrose, 2008). Language development is one of the factors that affect the stuttering. Children are more disfluent in periods of development of longer and more complex statements. The child is most disfluent while planning long and complex linguistic structures (Salihović, 2005). Clinical observations and research suggest that stuttering increases when children are using advanced forms of speech and language. Stuttering can be increased when an individual uses longer words, rare words and longer sentences (Peters & Guitar, 1991). Salihović, Junuzović-Žunić & Ibrahimagić (2006) suggests that stuttering can occur when a child speaks linguistically complex sentences. As much the child is trying to imitate speech and language of adults, using longer words and sentences, or trying out less familiar words, the greater the possibility of development of stuttering is. Tetnowski (1998) proposed that speech disruptions like normal disfluencies (phrase repetitions and phrase revisions) and speech disruptions like stuttering disfluencies (part-word repetitions and sound prolongations) may be associated with speech planning and monitoring processes. Some factors that increase language formulation demands, such as syntactic complexity or greater utterance length are believed to contribute to a greater incidence of speech disruptions in children who do not stutter (Tetnowski, 1998). Findings from most such research have indicated that increases in utterance length and complexity are associated with increases in speech disfluencies (Zackheim & Conture, 2003). Since the results of numerous studies have shown a correlation between the length of sentences and the appearance of greater disfluency in the speech, but also that most of the literature refers to the English language, we wanted to examine the impact of sentences length on the frequency of speech disfluency

of kindergarten and preschool children who stutter in Bosnia and Herzegovina.

## RESEARCH METHODS

### Respondent's sample

The sample was formed using data from the project "Influence of length of sentences on the frequency of speech disfluencies in children who stutter". The project was funded by The Federal Ministry of Education and Science in Bosnia and Herzegovina. The sample included 30 children who stutter (19 male participants and 13 female participants). The age of the participants was from 4 years and 8 months to 6 years and 11 months (56 to 83 months of age).

### Variable sample

AGE- Age of the child; FR- Frequency; DU- Duration; PC- Physical concomitants; TOS- Total overall score; LSS- Level of stuttering severity (1 – very mild level of stuttering severity; 2 – mild level of stuttering severity; 3 – moderate level of stuttering severity; 4 – severe level of stuttering severity; 5 – very severe level of stuttering severity); NSD3-5- The number of speech disfluencies in sentences that included 3 to 5 words; NSD6-8- The number of speech disfluencies in sentences that included 6 to 8 words; NSD9-11- The number of speech disfluencies in sentences that included 9 to 11 words; TNSD- The total number of speech disfluencies in sentences.

### The method of conducting research and measuring instrument

The research was conducted in kindergartens and primary schools in Tuzla Canton in Bosnia and Herzegovina. Each subject was treated separately. A child was classified as stuttering when he or she showed 3 or more stuttering moments (i.e., sound/syllable repetitions, sound prolongations, broken words, and/or monosyllabic whole-word repetitions) per 100 syllables of conversational speech (Bloodstein, 1995; Conture, 1990,2001; Pellowski & Conture, 2002), and had a score of 11 or higher on the "Stuttering Severity Instrument for Children and Adults (SSI-3)" (Riley, 1994). We used the "Stuttering Severity Instrument for Children and Adults" for the assessment of the stuttering severity.

This test was divided into five parts: Frequency (a score from 2 to 18 points), Duration (a score from 2 to 18 points), Physical concomitants (a score from 0 to 20 points), Total overall score and Tables summarizing the level of stuttering (Riley, 1994). We made tape recordings of spontaneous speaking for all subjects. All participants were a non – reader, and the speech sample was only recorded during their spontaneous speaking. The spontaneous speaking was elicited through pictures from a Manual. Each speech sample consisted of at least 200 syllables. The values for the stuttering frequency were obtained in the following way: the number of stuttered syllables was divided by the total number of syllables and then multiplied with 100. The duration of stuttering blocks was measured by a stopwatch in seconds, after which the three longest blocks were used for evaluation. The physical concomitants were observed during the tape recordings and were noted on the record form. After that, the results for all three parts were summarized (frequency, duration and physical concomitants), from where a total result of stuttering severity was obtained. After that, we converted the percentage of severity into points. The stimuli, for testing the influence of sentence lengths on the frequency of speech disfluencies for children who stutter, were subtest “Sentence imitation” taken from “Test of language development” (Newcomer & Hammill, 2008), which was translated and adapted into Bosnian language. The subtest “Sentence imitation” consisted of 36 sentences. In relation to the length, sentences are divided into three groups: the first group were 9 sentences that included 3 to 5 words, the second group were 14 sentences that included 6 to 8 words and the third group

were 13 sentences that included 9 to 11 words. Testing was conducted so that the examiner was pronouncing one sentence after which the participant repeated the same sentence. Each participant was requested to repeat exactly what he/she had heard. Speech and language pathologist has recorded all stuttering disfluencies in all sentences.

### Statistical data processing

Data was statistically analyzed using statistical computer package SPSS 20.0. Basic statistical parameters were calculated for each variable: mean, standard deviation, minimum and maximum. Multiple regression analysis was performed to determine the prognostic validity of the predictor variables in relation to the criterion variable. The study was conducted with the significance level of 5%.

## RESULTS

Table 1 displays the results of descriptive statistics of analyzed stuttering severity variables. The age of participants ranged from 56 to 83 months. The average of “Frequency” on the “Stuttering Severity Instrument for Children and Adults” for 30 children who stutter was 12.27 points, with a minimum score of 6 and a maximum score of 18 points. The average of “Duration” was 8.47 points, but it ranged from 2 to 12 points. The value of “Physical concomitants” ranged from 1 to 11 points, with a mean value of 5.6 points. The Total overall score was 26.33 points with a standard deviation of 6.88, which actually corresponds to a moderate level of stuttering severity.

Table 1. Basic statistical indicators analyzed variables of stuttering severity

Variables	N	Mean	SD	Min	Max
AGE	30	74.57	8.042	56	83
FR	30	12.27	3.352	6	18
DU	30	8.47	2.862	2	12
PC	30	5.60	2.699	1	11
TOS	30	26.33	6.880	11	38
LSS	30	3.23	0.898	1	5

Legend: AGE- Age of the child; FR- Frequency; DU- Duration; PC- Physical concomitants; TOS- Total overall score; LSS- Level of stuttering severity

In Table 2, basic statistical indicators of frequency of speech disfluencies in children who stutter are displayed. The mean value of "The total number of speech disfluencies in sentences" was 20.2, with a minimum value of 7, and maximum value of 66 disfluencies. The mean value of "The number of speech disfluencies in sentences included 3 to 5 words" was 1.3, and the re-

sults ranged from 0 to 8 disfluencies. The mean value of "The number of speech disfluencies in sentences included 6 to 8 words" was 6.77, with the minimum value of 1, and the maximum value of 22 disfluencies. When we analyzed the most complex sentences, which contained 9 to 11 words, the mean value was 12.13, but it ranged from 5 to 36 disfluencies.

Table 2. Basic statistical indicators of frequency of speech disfluencies for children who stutter

Variables	N	Mean	SD	Min	Max
<b>TNSD</b>	30	20.20	11.79	7	66
<b>NSD3-5</b>	30	1.30	1.841	0	8
<b>NSD6-8</b>	30	6.77	4.352	1	22
<b>NSD9-11</b>	30	12.13	6.75	5	36

Legend: NSD3-5- The number of speech disfluencies in sentences included 3 to 5 words; NSD6-8- The number of speech disfluencies in sentences included 6 to 8 words; NSD9-11- The number of speech disfluencies in sentences included 9 to 11 words; TNSD- The total number of speech disfluencies in sentences

Multiple regression analysis was performed to determine the prognostic validity of the predictor variables that describe the number of speech disfluencies in different lengths of sentences in relation to the criterion variable that describes the total number of speech disfluencies in sentences. The results showed that the multiple correlation coefficients, indicated by a value  $R$ , were 1.000. The percentage of variation described by the coefficient of determination ( $R^2$ ) explains 100% of common variability, which is statistically significant. Methods of forming the regression model showed that, in the space of predictor variables that describe

the different length of sentences, elimination of any of the variables cannot be done. Based on the results of beta coefficient, it can be concluded that there is a statistically significant effect of predictors on the criterion variable. The results showed that the sentences containing 9 to 11 words had most effects on the overall dynamics of speech disfluencies of children who stutter ( $\beta=0.573$ ,  $p= 0.00$ ). Following are sentences containing 6-8 words ( $\beta=0.369$ ,  $p= 0.00$ ) and the least impact, but still statistically significant impact on the overall dynamics speech disfluencies demonstrated sentences containing 3-5 words ( $\beta=0.156$ ,  $p= 0.00$ ) (Table3).

Table3. Results of Multiple regression analysis of the predictor variables in relation to the criterion variable

R	R <sup>2</sup>	Adjusted R <sup>2</sup>	St.Er.E	df	F	p
1.00	1.00	1.000	0.000	29	0.000	<b>0.000</b>

Variables	BETA	B	St.Er.E	p	Partial cor.	Part cor.
<b>NSD3-5</b>	0.156	1.000	0.000	<b>0.000</b>	1.000	0.108
<b>NSD6-8</b>	0.369	1.000	0.000	<b>0.000</b>	1.000	0.239
<b>NSD9-11</b>	0.573	1.000	0.000	<b>0.000</b>	1.000	0.349

Legend: NSD3-5- The number of speech disfluencies in sentences included 3 to 5 words; NSD6-8- The number of speech disfluencies in sentences included 6 to 8 words; NSD9-11- The number of speech disfluencies in sentences included 9 to 11 words

## DISCUSSION

Results in our investigation showed that there were influences of sentences lengths on the frequency of speech disfluencies in children who stutter. The number of speech disfluencies significantly increased as the length of the sentence increased. Also, the results showed that the sentences containing 9 to 11 words had most impact on the overall dynamics of speech disfluencies of children who stutter. Results of numerous studies have found that there is a relation between stuttering and the length of the statement, and that there is influence of sentences lengths on the frequency of speech disfluencies in children who stutter. Yaruss, Newman and Flora (1999) examined relationships between syntactic complexity, utterance length, and disfluency in the spontaneous speech of 12 normally fluent children (six girls and six boys, age 44–64 months), who produced 50-utterance spontaneous speech samples during conversations with a speech and language pathologist. The results showed that the disfluent utterances were longer and more syntactically complex than fluent utterances. The results also showed that the length was a better predictor of disfluency than complexity. Discriminate analyses indicated that utterance length in clausal constituents was the most important factor for predicting the likelihood that an utterance would be disfluent. Logan and Conture (1995) conducted research in which they examined individual utterances of children who stuttered. The authors categorizing them as either “high” or “low” in the parameters of rate, length and grammar. The authors found that stuttered utterances were more often rated as “high” in length and/or grammatical complexity, but were not characterized by fast speaking rates.

Some linguistic factors, such as utterance length and grammatical complexity have been found to make demands on children’s fluency (Bernstein – Ratner & Sih, 1987). Zackheim and Conture (2003) examined the influence of utterance length relative to each mean length of utterance of child on stuttering – liked is fluencies in stuttering children and their fluent peers and found that utterances above children’s mean length of utterance account for approximately 70% of all speech disfluencies. Logan and Conture (1997) found that preschoolers who stutter and pre-

schoolers with typical fluency speech are more likely to produce stuttering – liked is fluencies on utterances containing relatively many grammatical constituents. Gaines, Runyan and Meyers (1991) conducted a study where they attempted to clarify the relationship between stuttering in young children and the language factors of length and grammatical complexity. The 12 stuttering children, age 4-6 years, in spontaneous conversational dyads produced sentences containing stuttering within the first few words, in which authors were analyzed for length and grammatical complexity. The sentences in which an episode of stuttering occurred within the first three words were significantly more complex and longer than sentences that were free of perceptible stuttering and all other forms of fluency failure. Sawyer, Chon and Ambrose (2008) conducted a study in which they analyze the influences of rate, length and complexity on speech disfluency in a single speech sample in preschool children who stutter. They found that some of the factors which influenced disfluency in previous research seemed to be relevant at the end of a long speech sample, in which children became more disfluent. Mean length of utterance was significantly longer in the speech section that contained more stuttering like disfluencies. There were no differences in grammatical complexity, but clausal constituents were highly correlated with Mean length of utterance. That results are giving support to the perspective of length serving as a macro-variable affecting planning time and fluency. Perkins (1992) suggested that people who stutter are more fluent when using simple and short statements. Sawyer, Chon and Ambrose (2008) explained that findings of their investigation support the use of speech and language, pathologists measured that emphasizing shorter utterance lengths will establish speech fluency. Onslow, Packman and Harrison (2003) suggested that many of the resulting analysis disfluencies and complexity statements have clinical implications. The Lidcombe Program, the treatment approach for stuttering children, incorporates the principle of utterance length and syntactic complexity. In the early stages of the Lidcombe Program, the child’s verbal output is manipulated to ensure that short, syntactically simple utterances are produced. When the child achieves fluency at this level, then the syntactic demand placed on the child is gradually increased.

## CONCLUSION

Results of conducted research showed that there were influences of length of sentences on the frequency of speech disfluencies in children who stutter. The number of speech disfluencies significantly increased as the length of the sentences increased. Also, the results showed that the sentences containing many words had most impact on the overall dynamics of speech disfluencies in children who stutter. The results suggest that during the process of assessment and diagnosis of children who stutter, it should be required to assess the child's ability to use complex linguistic statements and to assess the frequency of disfluencies in relation to the complexity of the statements. Precision diagnostics would provide guidelines for the treatment of stuttering in terms of implementation approaches and strategies, which include gradually increasing the length and complexity of the utterances in children who stutter during speech and language treatment.

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## MOTORIC SPEED AND MANUAL DEXTERITY OF CHILDREN WITH IMPAIRED VISION

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### ABSTRACT

*The aim of this study was to estimate the motoric speed and manual dexterity of children with visual impairments. The research is covered by a sample size of 35 participants with visual impairment, with ages between 7 and 15 years, of which 19 participants with visual impairment were male and 16 participants with impaired vision were female. The study was conducted in 17 primary schools in the municipality of Tuzla, Bosnia and Herzegovina. The results showed that the motoric speed and manual dexterity of children with visual impairment is evenly developed on the right and left hand, and also on both hands together and that there is a relationship between the motoric speed and manual dexterity of the right and left hand and both hands together.*

**Key words:** *motoric speed, motoric dexterity, hands of children with visual impairment*

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### INTRODUCTION

Touching provides essential information to blind children about their surrounding world and about their daily activities. For children who are blind, it is necessary to use tactile function for their more independent functioning in everyday actions (Withagen, 2010). Common actions that can be easily solved with the help of vision can be complex if they are executed by touch (Jansson, 2008). Putting someone's hands on an object can be considered analogous to viewing that object with your eye. Some theorists suggest that there is a developing trend in the ability to use proprioceptive and tactile-kinesthetic senses in the years of learning (Gipsman, 1981). For the development of tactile-kinesthetic perception of blind children passive movements are very important, ie. the movements of arms, legs, head and neck and even the whole body, and these movements of the child's body are made by others (parents or education teacher). Such movements are

the basis for the acquisition of tactile-kinesthetic experience, and therefore also for the tactile-kinesthetic learning (Stančić, 1991). The development of a hand greatly affects the development of the whole organism. Performing a variety of complex hand movements leads to the development of the cerebral cortex, which becomes the center of distinguishing a large number of stimuli that are received through the movements of the arm. A significant part of the motor zone of the cerebral cortex is centers for movements of the hand and fingers (Jablan, 2001). During the evolution of mankind, the hand was developed into the most perfect instrument of kinesiology. Along with these changes, the cortical representation of the movement also changed in favor of the areolas of hands, speech and eye movements. These parts of the body, reached the highest level of development in terms of anatomical and functional organization of praxis.

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Mankind during its sociobiological development mastered the technique of using its own body parts, primarily hands for the purpose of using different objects but also in order to transfer messages or communication gestures, which apparently preceded verbal communication (Očić, 1998). The interdependence of the motoric system and visual system affects the development of social communication and cognitive skills (Amerson, 1999). According to Amerson (1999), "sensory input affects the motoric output and movement affects what is received through the sensory channels".

The importance of well-organized and skillful hand movement of blind children and those with greater visual impairment lies in the fact that the arm has to be a substitute for vision, as a means of contact and interaction with the environment. (Eškirović, Jablan and Vučinić, 2005). Perceiving objects with palpation is in principle no different from visual perception. The arm performs the same movement system that the eye performs while viewing objects. When palpating blind people can measure the width and length of the object, determine the shape, and compare it with other objects. According to Rewesz the hand is working, creating and recognizing. He was describing passive and active palpation. Passive palpation is done by hand which is stationary, and active palpation is done with the moving arm. In the position where vision brought both hands to the middle line, the fingers touch and to coordinate their use, hands of blind babies remain in the position at shoulder height. Results of the research conducted by Rogow on blind persons aged 3-19 years indicate a significant relationship between the manipulation of objects and success in speech. He also found that most of those who do not have good manipulation exhibit stereotyped movements. Finally, all subjects who successfully carried out the manipulation of objects manifested their desire to play with objects from their environment. Poor ability to fetch and poor control of arms are hindering coordination and displacement pattern, needed for crawling and movement. Movement is essential for understanding the permanence of the object for a blind child because only this is giving the child required information for the synthesis of experience. To a blind child the world appears as it is discontinued and it cannot

attributed materiality to it. This can be understood as a conceptual problem – the child must conclude on the identity of the object only on the basis of sound (Bullingham, 1972; Dimčović, 1990; Fraiberg, 1977; Jablan, 1997).

In the perception of shapes, positions of objects and spatial relationships among objects, visually impaired children use analytical touch with whom hands in motion follow the contours of the object. So, the perception in this case is formed by combining successive senses of touch, which are accompanied by senses of movement of fingers and hands. If these movements are more consistent and performed at a higher speed, they will affect the possibility of acquiring new well systematized and organized information (Jablan, 2007). Proper coordination or coherent and rational finger movements of the right and left hand can significantly facilitate and speed up the process of learning, reading and writing of children with impaired vision. Therefore, motoric speed and dexterity directly affect the success of adoption knowledge of children with visual impairment (Radžo Alibegović, 2013). The aim of this study was to estimate the motoric speed and manual dexterity of children with visual impairments.

## METHODS

### Sample of respondents

The research is covered by a sample size of 35 participants with visual impairment, with ages between 7 and 15 years, of which 19 participants with visual impairment were male and 16 participants with impaired vision were female.

### The method of conducting the research

The study was conducted in 17 primary schools in the municipality of Tuzla, Bosnia and Herzegovina. All subjects were tested individually in a separate room and in comfortable surroundings. The order of testing was such that it prevents consecutive activation of the same set of dimensions to avoid saturation effects and possible negative transfer.

## Measuring instrument

To estimate the motoric speed and manual dexterity of children with visual impairments Luria - Nebraska test for children (LNNB-C), more accurate, subtest C1 "motoric functions" was used, which refers to item number 1 (Golden, 1987). For collecting data on visual acuity analysis of medical records was used. Analysis of pedagogical and psychological documentation was used to collect data on sex and chronological age.

## Methods of data processing

After the conduction of the research, the obtained data was processed by the computer statistical program SPSS 16.0 for Microsoft Windows. Basic statistical

parameters were calculated, such as: minimum and maximum results, the arithmetic mean and standard deviation. To determine the significance of differences the t-test was used and by the Pearson and Spearman coefficient the statistically significant correlation between the observed variables was determined.

## RESULTS

Based on the information that we got in our study, we wanted to determine:

- if the motoric speed and manual dexterity was accordingly developed on the right hand, or left hand and both hands together;
- if there exist some connection between the development of motoric skills and speed of the right, left and both hands.

Table 1. Motoric speed and manual dexterity of children with visual impairments

<b>Motoric speed and dexterity</b>				
	Task number	$\bar{X}$	SD	N
<b>Right</b>	1	0,49	0,70	35
<b>Left</b>	2	0,46	0,66	35
<b>Both hands</b>	3	0,40	0,60	35
<b>t-test and significances</b>	t (1:3) = 0,83; p= 0,41 – not significant			
	t (2:3) = 0,53; p= 0,60 – not significant			

Table 1 shows the results of development of motoric skills and speed of the right, left and both hands of children with impaired vision. The t-test was used to determine the significance of differences between means for dependent samples. Based on the results in Table 1, we can conclude that the motoric speed

and dexterity of children from our sample are equally developed on the right and left hand, and both hands together, because there are no statistically significant differences between the arithmetic means of the variables.

Table 2. Relationship between motoric speed and skills of right, left and both hands

		Right	Left	Both hands
<b>Right</b>	Pearson r	1,00	0,84	0,57
	P <sub>sig</sub>	-	<b>0,00**</b>	<b>0,00**</b>
	N	35	35	35
<b>Left</b>	Pearson r	0,84	1,00	0,49
	P <sub>sig</sub>	<b>0,00**</b>	-	<b>0,00**</b>
	N	35	35	35
<b>Both hands</b>	Pearson r	0,57	0,49	1,00
	P <sub>sig</sub>	<b>0,00**</b>	<b>0,00**</b>	-
	N	35	35	35

\*\* Correlation is significant at a significance level of 0.01

To establish the correlation between the development of motoric skills and speed of the right, left and both hands the Pearson coefficient of linear correlation and its significance were used. Between the motoric speed and dexterity of the right hand and motoric speed and dexterity of the left hand there is a positive high correlation significant at the level of 0.01. Between motoric skills and speed of the right hand and motoric skills of both hands there is a moderate positive correlation significant at the level of 0.01. Also, between the motoric skills of the left hand and motoric skills of both hands there is a moderate positive correlation significant at the level of 0.01.

## DISCUSSION

Researches of development of blind children show that it is about equal to the development of children who do not have impairments, except tasks that require a basis of specific experiences. Belated mastering is most expressed in some types of motoric response, and that the fine motor coordination is easy developed only when a child has a wide experience in motoric activities. For skills with fine motor coordination and success in overcoming spatial relations, it was established that they are developing spontaneously, although usually at a higher age than in children that do not have visual impairments, those blind children which had adequate opportunities for rough motoric activity and which were allowed to freely explore their environment (Garrett and Levin, 1970). The results of the study confirmed the conclusion that the motoric speed and manual dexterity of children with visual impairment in our sample are equally de-

veloped on the right and left hand, and both hands together. It was also determined that there is a good connection between the development of motoric skills and speed of the right, left and both hands.

Each usable rest of vision greatly facilitates motoric development. For children with usable remains of vision visible stimulation can have a function as well as for children with normal sight, especially if the vision is well-corrected. This refers to the fine motoric skills, except perhaps development of the finest precision motion seeking the perfect visual control (Oberman-Babić, 1987). In 2001, Jablan has examined the development and connection of motoric speed and manual dexterity of the hands of 95 blind students from first to eighth grade. The sample consisted of 60 boys and 35 girls. The average age of participants was 11.35 years. She came to the conclusion that the motoric speed and manual dexterity of blind children is equally developed on both hands as well as on the right and left hand, and between them there is a high correlation.

Radžo (2008) applied Ozeretzky kinesiology test on a sample of 58 school children, aged from 6 to 15 years (29 children with visual impairment and 29 children with normal vision). The author concluded that children with visual impairments exhibited significantly lower motoric skills compared to children with normal vision in total quotient of motoric skills (general motoric skills) and on all dimensions of psychomotor space. Visually impaired respondents successfully and in a timely manner did the assigned tasks with both hands in the psychomotor dimension B which is related to the coordinated dynamics of hands, which included solving problems with the left or right hand.

Pavlović came to a similar conclusion (1987) when applied Ozeretsky test on a sample of 80 participants. Seen from a pedagogical point of view it is necessary to teach blind children all possible and relevant strategies in order to face the daily challenges, especially those children who are included in regular schools where they meet with a large number of tactile challenges, whenever they attempt to solve a task that includes touching, instead of seeing (McLinden and McCall, 2002). As part of the research project "Phenomenology of development obstructions and disruptions" realized at the Special Education Faculty in Belgrade from 2000 to 2005, a study was conducted which referred to the study of obstruction of kinesiology, with a sample of 86 students (55 visually impaired, 31 blind) from first to eighth grade. For the assessment of co-ordination, balance and praxis Ozeretzky test was also used. It was noticed that students with visual impairments incoordination and poor praxis activity is dominating. From the sign of dismaturation, diadochokinesis usually occurs, but also dislateralisation (Nikolić, Ilić-Stošović, 2007). Evenly and balanced development of tactile and motoric functions of blind children is the path through which gaining of experience takes place, and therefore determines also their psychosocial development (Jablan and Eškirović 2002).

## CONCLUSION

By conducting this study<sup>2</sup>, we concluded that the motoric speed and manual dexterity of children with visual impairments are evenly developed. The results showed that there is a statistical link between the motoric speed and skills and the right hand, the motoric speed and dexterity and left hand as well as the motoric speed and dexterity and both hands. With 99% confidence we can conclude that the more developed motoric speed and dexterity of children with impaired vision of their left hand are, the more developed motoric speed and dexterity on the right hand or both hands will be.

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## FUNDAMENTALS OF APPLICATION FACTOR ANALYSIS IN EDUCATION AND REHABILITATION

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### ABSTRACT

*Factor analysis is one of multivariate data processing methods, which studies the causal relationships of phenomena, that is, the cause of integration. In the introductory part of the paper, the basic definitions and interpretations regarding the factor analysis and the terms of multivariate methods, and some examples have been given in defining the manifest and latent, as explorative and confirmative examples. The justification for the application of factor analysis is elaborated in the main part of the paper with reference to the various authors who have dealt with this issue. Also, the paper presents the procedures of factor analysis, and presents tables and graphs showing the results necessary for interpretation. Given that for special education and rehabilitation a biopsychosocial approach is fundamental, factor analysis can be a powerful tool when studying interconnections of different phenomena. Its proper application by educators-rehabilitators, who act to this problem, may help in understanding the causes of connections of phenomena, and as such it helps in the development of a treatment for the prevention, education and rehabilitation of persons with disabilities.*

**Keywords:** *Factor analysis, multivariate methods, special education-rehabilitation.*

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### INTRODUCTION

Factor analysis is one of multivariate data processing methods aimed at studying the interconnection of phenomenon and causes of connections between phenomenon. Multivariate method is often cited in literature as the multivariate analysis, which is correct, but errors occur when using the term multivariate method. Hasanbegović (2015) pointed at this, who states that in some books the term "multivariate method" is used terminologically wrong, and pointed out that the concept of variation or "variants of" is more proper in those situations, while the term "variants" which reflects options, is used incorrectly. Factor analysis was created as a "product" of thoughts of psychologists on intelligence and the greatest merit is attributed to Charles

Edward Spearman (1863-1945). He pointed in his work from 1904, while studying the correlation between the results of different tests of intelligence, to the possibility of expressing a simple model, that is that all common features of intelligence according to Spearman can be reduced to one general "g" factor and one specific "s" factor (Petrovic, 2013). Factor analysis aims to reeducate a larger number of manifest variables on latent dimensions called factors. Manifest variables (something that is obvious) also represent the results of characteristics that vary, which are obtained based on the application of measuring instruments, subtests or particles within subtests depending on what is the subject and objective of the research.

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For example, motor skills, which are evaluated by the Gross Motor Function Measure Test (GMFM), are a manifest variable. Or let's say, subtest walking, running and sitting of the Gross Motor Function Measure Test is a manifest variable. Also, individual items within subtest walking, running and sitting can be manifest variables. All what measures a given phenomenon that we observe can be called a manifest variable. Latent (hidden) variables are created as a linear combination of manifest variables and they are called factors. For example Hasanbegović, Mehmedinović and Mahmutović (2012) pointed out three factors in a paper called "Latent structure of motor abilities and skills of deaf children", the first factor being "The Factor of physical abilities and mobility" which is the most important in determining motor skills in the population of deaf children. Direct scientific contribution of factor analysis in this case is reflected in the fact that with the separated factor the time is "shorten" and it contributes to the proposal of measures and treatment for the population of deaf children. In this example, the exploratory factor analysis is applied when the number and structure of factors are not known in advance. In addition to exploratory factor analysis, factor analysis can also be confirmatory.

Mejovšek (2003) states that the confirmatory factor analysis is applied in cases when checking the hypothesis on the number and structure of factors for which already exist some empirical evidence.

For example, in order to evaluate the questionnaire "Psychological Inventory of Criminal Thinking Styles", Dolezal (2007) used confirmatory factor analysis, and he found that it has good measurement properties. However, the structure of the obtained factors are different from Walters structure (with whom it was compared), where Dolezal (2007) states that it is necessary to make certain changes to the instrument and to conduct additional research to better explain the settings of Walters theory of criminal lifestyle. From the above examples it can be concluded, and as Fulgosi (1988) also states in the strategies of using factor analysis, that confirmatory factor analysis appears as an objective test for a particular structural model or theory. Also, this is supported by the claim that confirmatory factor analysis is a powerful instrument for scientific validation of structural theory, and that it is a strong barrier to speculative models, theories and concepts that have no objective empirical confirmation (Fulgosi and Markovic, 1976 see Fulgosi 1979).

### **When to apply and what are the conditions for the application of factor analysis**

When checking the set goals or approval (rejection) of research hypothesis, a question arises about the justification of the use of certain analyzes. To reasonably apply a certain analysis, or statistical test, dependence or independence of the sample, the types of applied variables, assessment of normal distribution of data, and determining a measure of symmetry and kurtosis and modalities of the curve by which the researcher defines the method of parametric or non-parametric statistics are all taken into account. All this also applies to the justification of the use of factor analysis with special emphasis on the variables used in the process. For example, if we are determining the motivation of young people with disabilities to continue their education, while not including variables related to success in school, self-respect, the support of parents, the community, etc., then factor analysis will not give the desired result or it will give a superficial result (as factor analysis is based on correlation). Here we are talking about the logic of the application of factor analysis, as well as experience of researchers what they would like to receive from the applied model. According to Fulgosi (1988) in the factor analysis we start from the data from the interconnection between the observed variables when these variables are expressed in points of deviation, ie., when all results and data are expressed as deviations from the arithmetic means of corresponding variables.

For each variable there must be a known standard deviation of results, and thus the variance of results that is equal to the square of the standard deviation is known (Fulgosi, 1988).

When it comes to the size of the sample for the application of factor analysis, the authors give different recommendations, but certainly all of them agree that the sample must belong to the group of large samples. Hasanbegović (2015) states that the ratio of the sample versus the applied variables must be at least 3:1. Suzić (2007) states that the number of data must be at least five times greater than the number of variables, while Nunnally (1978) recommended a ratio of 10:1. Fulgosi (1988) states that the deficiency in the application of factor analysis is an unstable correlation coefficient, and that it could be expected to be more stable when the number of participants should exceed 100 and that it must be at least five times greater than the number of variables. Tabachnick & Fidell (2007) and Pallant (2011) claim that five observations per item are sufficient in most cases.

## Procedures in factor analysis

Factor analysis begins with intercorrelations of manifest variables, with the goal of gaining insight into the matrix of obtained coefficients ranged from -1 to +1. According to Tabachnik and Fidell (2007) one of the conditions that manifest variables are subjected to factor analysis is that their interconnectedness must be greater than 0.30, otherwise the data is not suitable for factor analysis. After insight into the intercorrelations of manifest variables, the results of the two tests justifiability of using factor analysis are calculated: Kaiser-Meyer-Olkin's (KMO) and Bartlett's test of sphericity, which is a measure of representativeness of the sample set of manifest variables, resulting in a ra-

tio of real and squared correlation and squared partial correlation. For the application of factor analysis to be justified, Bartlett's test of sphericity must be significant ( $\leq 0.05$ ), and it is recommended that the value of the KMO test should be greater than 0.6 (Tabachnik & Fidell, 2007). In summary, as Hasanbegović (2015) stated, important information for the analysis in the correlation matrix are: the coefficients, the level of significance, the determinant (which should be greater than zero), KMO and Bartlett's test. After obtaining the coefficients, that is where the correlation of manifest variables is greater than 0.30, a KMO greater than 0.6, which is statistically significant, concludes that there is a justification of observed set of manifest variables to undergo factor analysis (Example results Table 1).

Table 1. KMO i Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		<b>.72</b>
Bartlett's Test of Sphericity	Approx. Chi-Square	216.94
	Df	21
	Sig.	<b>.000</b>

**Determinant= 0,33**

After obtaining the results from the correlation matrix, we approach to the selection of the appropriate model, which in a statistical package (SPSS) has seven models: model of main components, model of unweighted least squares, model of least generalization, model of maximum likelihood, the model of the main axis of factors, model of alpha factorization and model of interpretation of factors. The most commonly used are two basic models: the model of common factor and component model. The model common factors analyzes the common variance of manifest variables that are in the factor analysis is called communality. The component model is mainly used in the factor analysis, which is a model of main components proposed by Harold Hotelling (1933). With the main

components method of Harold Hotelling we get a number of major components equal to the number of initial variables. The main components are calculated in succession at first the first one, then the second one, etc., where the first main component is counted on the full matrix of intercorrelation of variables and it describes the greatest amount of variance of the variable (Mejovšek, 2003). Having defined the model, the number of components that need to be kept are resolved using criteria. There are two key criteria and these are: Guttman-Kaiser criterion and scree test proposed by Cattell (1966), and it is called Cattell Scree Test. The Kaiser-Guttman criterion implies to take the factors or components with a characteristic value above one (Example Table 2).

Table 2. Total variance explained

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
<b>1</b>	<b>2.53</b>	<b>36.16</b>	<b>36.16</b>
<b>2</b>	<b>1.06</b>	<b>15.21</b>	<b>51.38</b>
3	.97	13.89	65.27
4	.76	10.94	76.22
5	.65	9.31	85.54
6	.55	7.96	93.50
7	.45	6.49	100.00

According to Cattell Scree test, as Pallant (2011) states, the characteristic values of all factors (SPSS works automatically) are drawn and recommended that all factors above the critical point should be kept, ie. the saddle of this diagram (Example Chart 1).

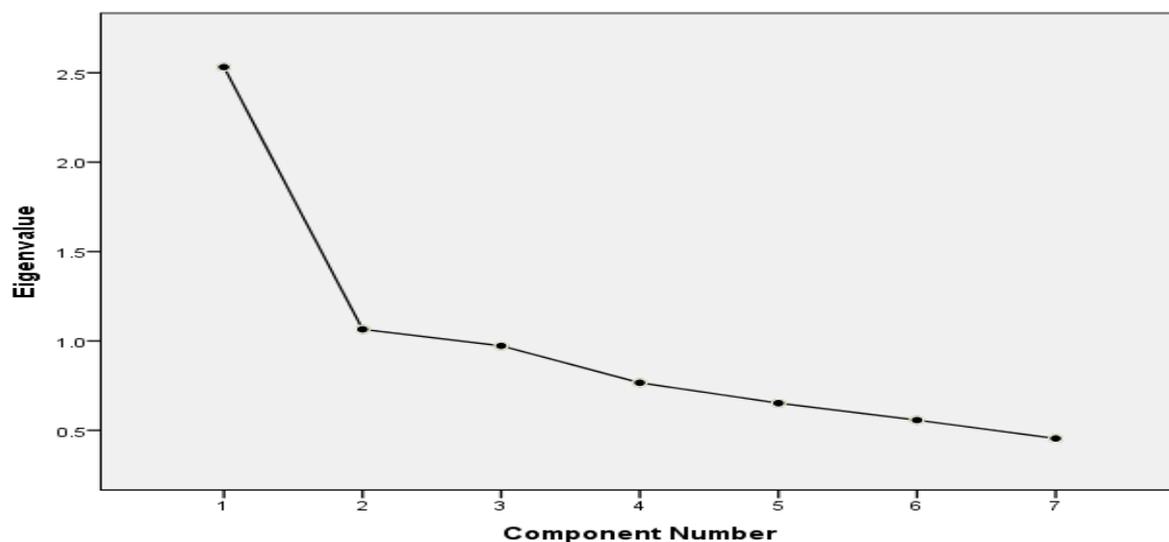


Chart 1. Scree test

Significant main components must be rotated in order to obtain the final factors because the factor analysis is not finished without rotation. Rotations are classified into two groups and they can be orthogonal and oblique. Orthogonal rotations produce factors that are unrelated or independent of each other and oblique rotations produce factors which are interrelated (Suzić, 2007).

Orthogonal factors are easier to interpret, because the interpretation is performed on a single matrix, where after an oblique rotation a pattern matrix, a matrix of structure and a matrix of correlation of factors are obtained (Hasanbegović, 2015). The statistical package SPSS offers varimax, quartimax and equamax rotation that belong to the orthogonal rotations, and direct

oblimin and promax rotations that belong to oblique rotations. The method of varimax rotation tries to minimize the number of variables with high absolute values of factor weights (Pallant, 2007). Out of all orthogonal rotations, varimax rotations are mostly used, and direct oblimin rotations are mostly used out of all oblique rotations. In Table 3 is given an example of the result of direct oblimin rotation, or matrix of form and structure. From the table it can be concluded that out of 7 variables as much were involved in the research (the data is used as an example), the first factor is composed of 5 variables, and the second factor is composed of two variables. After an insight into the structure of the variables that define the factors, it is necessary to give them a title.

Table 3. Parallel and orthogonal projections

Variable	Component		Variable	Component	
	1	2		1	2
VAR00003	.671	↓	VAR00005	.695	↓
VAR00005	.669		VAR00003	.695	
VAR00007	.508		VAR00007	.560	
VAR00001	.485		VAR00002	.535	
VAR00002	.418		VAR00001	.522	
VAR00004		.819	VAR00004		.830
VAR00006		.763	VAR00006		.785

The last result that is shown is the correlation between the obtained factors. In this example, there were two and the resulting coefficients show that there is a correlation between the two factors ( $r = 0.52$ ).

Table 4. Correlation between factors

Factor	1	2
First factor	1	.52
Second factor	.52	1

## CONCLUSION

Based on theoretical considerations and practical elaboration, efforts were made in context of acquiring knowledge to point to the possibility and the importance of the application of factor analysis in the field of education and rehabilitation. Considering that the biopsychosocial approach is fundamental for education and rehabilitation, factor analysis can be a powerful tool when studying interconnection of different phenomena. Its proper application by special educators-rehabilitators who deal with these problems, may help in understanding the causes of connections between phenomena, and as such it helps in the development of a treatment for prevention, education and rehabilitation of persons with disabilities.

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## LEARNING STRATEGIES IN HIGH SCHOOL STUDENTS - DIFFERENCES WITH RESPECT TO AGE AND TYPE OF SECONDARY SCHOOL

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### ABSTRACT

*The aim of this study was to determine the level of development of learning strategies in high school students with respect to the age of students and type of high school they attend. We tried to answer the question of whether the years spent in school educate students to strategic approach to learning. The study sample consisted of students of the first and third grade students from three high schools in Tuzla, which are: Gymnasium "Mesa Selimović", Secondary Commercial School and students of apprenticeships from the Mixed Secondary Technical School, a total of 731 students. Instruments used in this research are Scaler Learning Strategies (SUS) from 2009, by Nenad Suzić. The results showed that 85% of students while learning do not use any strategy, and that first-grade students had a significantly higher level of development of learning strategies in relation to students of the third grade. This data is not encouraging and tells us that schools put little work into educating students to strategic approach to learning. The study found that answers of students with regard to the type of high school differ significantly on the general score of the SUS-scaler and all its sub-tests. Based on the arithmetic mean heights, it was found that students of apprenticeships achieved significantly lower values on the general score of the SUS-scaler compared to students of Gymnasium and Secondary Commercial School.*

**Key words:** learning strategies, high school students, learning to learn, type of high school.

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### INTRODUCTION

We live in a time where in every moment in every sphere of life new discoveries, inventions and ideas are made. Rapid scientific, technological and social development gives us challenges that require new knowledge, skills and abilities. Intense changes aimed at increasing the role of the new skills and knowledge, they see the learning process and the ability of each individual to promote and oversee this process as the central problem. Toffler (1970; according to Suzić, 2012) notes that illiterate people in future will not be those who cannot write, but those who do not know how to learn. So, it is no surprise that the documents of the European Commission (EC, 2007) exactly mentioned learning to learn as an extremely important competence which guarantees every person "survival" in the world of profound changes and the everyday flow of infor-

mation. Learning to learn is defined as the ability to continue and persist in learning, to individually and in groups organize their own learning, and to effectively manage time and information. This capability includes an awareness of their own learning process and educational needs, available resources and grants, and also the obstacles and strategies to overcome them (Education Council, 2006).

Arrival at school puts before the child a whole range of new challenges, where learning becomes the main task. However, learning is not a natural and easy process for every child. There is not a small number of students who have learning difficulties. Does the core of the problem in this case lie in the inadequate choosing of learning strategies? This is an extremely important issue to which we will try to answer in the further elaboration of the problem.

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Faced with unlimited multiplication, learning does not resist to crises which seriously burden it today (Šehović, 2012). For centuries, it was identified as the acquisition of knowledge. However, knowledge is accumulating faster and more dynamic than capacities of learning increase. Therefore, the main obligation of school, as pointed out by Bakovljević (1998), is no longer to supply the students a greater amount of knowledge, but to permanently interested and thoroughly educate for lifelong independent learning. In this respect, the school occupies an important place in the education of students to strategic approach to learning, with a plan and clearly defined learning objectives. The culture of learning and capacity to learn is a permanent value to strive for. Teachers have to encourage strategic learning, and organizing their work based on paradigm settings oriented to the learning process, but not only on the content of learning. This interpretation has served as basis for the formulation of our research hypothesis that the years spent in school contribute to the development of strategic learning in students.

## **THEORETICAL BASIS OF RESEARCH**

### **The concept and importance of learning strategies**

Cognitive learning theory has prompted numerous studies which clearly recognized the active role that students have in the learning process (Zimmerman, 2002). Within these tendencies a large number of researchers focused on exploring learning strategies, which are assumed to play a key role in successful learning. In the overall process of learning is of particular important to learn how to learn. When confronted with an abundance of content, student who is ignorant of effective learning begins to learn by focusing on his memory, and immediately after begins to memorize all of it. It is an almost sure path of his teaching to become "torture" (Suzić, 2005). Instead of this approach, it is possible to strategic approach to learning, separating, for example, the important from the unimportant, to make notes to remember just the key information or structure of the material, to use different sources when working on a task, etc. Therefore, it is expected from the modern school that students develop a strategic approach to learning, but also to develop a positive attitude towards learning. Effective learning involves the use of different learning strategies. Freeman (Freeman, 1992) perceived learning strategies as an integrated sequence of actions selected in accordance with the intended objective. Wenden and Rubin (Wenden & Rubin, 1987) de-

fining learning strategies as techniques that students apply to acquire knowledge. Richards and Platt (Richards & Platt, 1992) interpreted them as a deliberate forms of behavior and thinking that students apply during learning, so they could learn, understand and remember new information better. A very comprehensive definition of learning strategies offers us Oxford (Oxford, 1990), defining learning strategies as operations used by students to facilitate themselves the acquisition, storage or retrieval of information, or as specific actions taken by students to make learning easier, faster, more fun, more efficient, more controllable, and more transferable. It is therefore extremely important that students understand that the strategies and techniques of learning need to be learned, developed and improved, like any other activity that they will use in their life. Meyer (Meyer, 2005) points out those learning strategies are used for developing (elaboration), reducing and simplifying the teaching material. Learning strategies can help students that their achieved results are in line with their invested time, energy and patience, and that they learn with ease and pleasure, while at the same time achieving results. According to Ormrod (2011) strategic learning in students can range from taking notes during learning, through summarizing and organization of new information, to the creation of the right environment for learning.

The consequence of the enormous scientific and technological progress and the everyday flow of information from different spheres of life and work, among other things are also too extensive curricula in schools at all levels of education. When confronted with an abundance of information and content that must be adopted, the first thing students have to carry out is the selection of key information which they will process. They should also assess what is the priority objective and which learning methods should be used, with whom and how to cooperate, to carry out their own structure of work content, to choose what is necessary to memorize, to apply the techniques of memorizing and to evaluate finished tasks. An important assumption for successful learning is exactly learning strategies (Dumford, Cogswell & Miller, 2016). Although learning is the result of personal effort of every individual, teachers can teach students how to learn (Mirkov and Opačić, 1997). To achieve savings of time and energy for deeper consideration of new ideas with which the student is confronted while learning, it is necessary that the strategies are well-trained, so that they become automated and well organized, which includes training for their correct choice in a given situation.

Learning strategies, therefore, contribute to the regulation and monitoring of time for learning, concentration and a better understanding of the learning content (Dumford, Cogswell & Miller, 2016). In choosing the content of learning, students apply strategic learning to sort out the most important things and deal with them, not wasting time dealing with small things and details. Unlike profound learning, they strategic link intentions or goals with the contents and teaching methods. If one method fails, a strategic approach is to search for an alternative. A research (Winne and Perry, 1999) has shown that students who use strategic learning achieved metacognitive control over the learning process and were effectively changing methods and tactics while working on tasks. Metacognition, as awareness of own learning and thinking, sometimes stands out as the most effective strategy in learning (Mirkov, 2005). Given that metacognition is sophisticated and is not always developed spontaneously, there is a need to take this ability for a general insight, planning and awareness in the learning process systematically developed in school. Beliefs of an individual about himself and his own learning affect the learning process (Vrkić and Vlahović Štetić, 2013). In order to enhance learning, according to Freeman (Freeman, 1992), metacognitive behavior are useful, such as organizing information (extract central ideas and gathering additional information around them which give them their meaning), connecting new material to prior knowledge, checking their own understanding and controlling their own learning process, developing alternative strategies for solving problems and connecting of interpretation of a problem with general scientific principles. Mirkov (2006) points out that most students have enough knowledge of learning strategies. Students often think that it is enough to re-read and repeat material. They learn by heart, intentionally, because they know that they can get good grades just by memorizing. First, insufficient prior knowledge or understanding of matter, adversely affect the ability to regulate cognitive processes, that is finding appropriate and effective learning strategies, due to the inability to grasp which ideas are important in the text they are reading, incomplete knowledge of the phenomena and poor understanding of the material. Second, students who adversely assess their own ability are using less effective learning strategies to learn, not only because of

real intellectual disabilities, which can be objective, but also because of the uncertainty in themselves. They therefore rely on lower cognitive processes, such as storing, identifying and the like.

Most studies (Gredler, 1992; Stojaković, 1985 to Stojaković, 2006) suggest that students who achieve better results at school are usually using and applying the following strategies and processes of learning: they are connecting prior knowledge with new learned material in order to better understand and understanding new learned material; they tend to constantly question themselves about why something is learned, where and how it can be applied, etc.; they often pause in the process of learning and reading text to make themselves sure they understand the content they have learned; they are trying to find new examples for a better explanation of concepts and ideas discussed in the learning material and they do not remain only at the example given in textbooks; they are prone and they tend to have a greater tendency to critically evaluate what they read ( they like to discuss and verify what was given in the text) and they make more detailed notes about the main concepts and ideas in the text (Stojaković, 2006, pages 22, 23).

Teaching should be more infused with contents for educating students for independent learning which is regulated by modern principles of teaching (Muminović, 2000). With years spent in school, students should receive rounded up units in the field of education for strategic learning. Teaching learning strategies influence the formation of realistic expectations among students regarding competence for learning, by reducing the fear of failure and stimulate motivation for learning. In the process of teaching, students should be mobilized and educated to use effective and efficient learning strategies. Learning strategies are usually related to needs and interests of students in order to improve learning and are based on different learning styles (Ekwensi, Moranski and Townsend-Sweet, 2006). The ability to analyze their own thinking process is an essential condition for the adoption of effective learning strategies. Teachers can do much to help their students to get to know their cognitive and learning styles to form a more adequate picture of themselves and their abilities and personality traits. All this points are a necessity with dealing with more detailed and systematic development of a strategic approach to learning in school.

## METHODS

The aim of this research was to examine the level of development of learning strategies of high school students considering the class they are attending and the type of high school.

In this study, we started from three hypotheses:

1. High school students will demonstrate a high level of development of learning strategies which they apply in the classroom and in work learning material.
2. Third grade students will show a higher level of development of learning strategies in relation to first grade students.
3. Gymnasium students and Secondary Commercial School students will demonstrate a higher level of development of learning strategies in relation to students of apprenticeships.

### Sample

The sample of this study consisted of thirty students classes (five first grade classes of and five third grade classes) from three secondary schools in the Tuzla, namely: students of Gymnasium "Mesa Selimović" (264 students), students of Secondary Commercial School (240 students) and students of apprenticeships from the Mixed secondary technical school (227 students). The study included 370 students of the first grade and 361 students of third grade. The size of the sample was calculated using  $G * POWER 3$  program,

where with the heterogeneity of 0.70 and a possible sampling error of 5% we received information that the minimum number of units in our sample must be 613 respondents. As our sample is larger and amounts to 731 respondents, we can conclude that the sample of respondents can be considered representative for the area of the basic set (population).

The results of the chi-square matching test show uniformity of the sample according to the type of high school ( $\chi^2 = 2.89$ ,  $df = 2$ ,  $p = 0.24$ ) and the school grade ( $\chi^2 = 0.11$ ,  $df = 1$ ,  $p = 0,74$ ), which gives us the right to perform certain generalizations.

### Instrument

The instrument used in this study is Scaler of learning strategies (SUS scaler) (Suzić, 2009) which measures the development of learning strategies that students apply in the classroom and in work with learning material. In essence of the instrument lies a five-point Likert scale with 55 statements which corresponds to the scale 1 = not at all, never; 2 = a little, sometimes; 3 = medium, half and half; 4 = mainly, often and 5 = completely, always. Questions in this instrument are arranged in the following subtests: a) notes, b) sources of learning, c) planning of learning, d) quality reading and e) effective memorizing, which represent learning strategies.

For this instrument, we have done calibration on our sample. Table 1 shows the results achieved in our sample compared to the results of original calibrations.

Table 1. Results of calibration of SUS-scaler

Scaler of learning strategies	Alpha-Cronbach ( $\alpha$ ) original calibration	Alpha-Cronbach ( $\alpha$ ) our calibration
1. Notes	0,64	0,84
2. Sources of learning	0,74	0,86
3. Planning of learning	0,53	0,57
4. Quality reading	0,57	0,73
5. Effective memorizing	0,55	0,75
<i>SUS – general score</i>	0,86	0,92

As it can be seen in Table 1, the instrument shows a high internal consistency, whose Alpha Cronbach reliability coefficient is  $\alpha = 0.92$ . The homogeneity of this instrument is 0.72, and Kaiser, Mayer, Olkin (KMO) measure of representativeness has a high value of 0.93. This scaler is designed to recognize the practice and study habits that students apply every day.

### Method of realization of research

The research was conducted in three secondary schools in Tuzla, on a sample of 731 students. The students were informed that the survey is anonymous, and that the results will be used exclusively for research purposes.

During the examination, the examiner was in direct contact with the respondents, so that the respondents had the opportunity to ask questions and seek explanations. To process the data obtained by instruments, SPSS 16 (Statistical Package of Social Sciences-for Windows) and G \* Power 3 software were used, while for calculating the metric characteristics of the instruments we used SPSS macro *rtt9s*. Normalization and standardization of results was carried out with the help of SPSS's macro "Normalize".

## RESULTS AND DISCUSSION

### The level of development of learning strategies

The research started from the assumption that high

school students will show a high level of development of learning strategies. Since the Scaler of learning strategy which was used is a not standardized instrument, no external benchmarks could be applied in the research. Therefore, in order to give answers to the question of development of strategic learning in high school students, we analyzed the distribution of scores in individual subtests that measure learning strategies. The theoretical range of scores for the entire instrument is distributed between 55 (underdevelopment learning strategies) and 275 (maximum development of learning strategies). Assessment of the level of development of learning strategies was carried out using the distribution of achieved scores of subjects on which the instrument is applied to. Basic descriptive indicators are provided in Table 2.

Table 2: Descriptive statistics for individual learning strategies

	Number of respondents	Arithmetic mean	Standard deviation	Min	Max
Notes	731	58,78	11,56	16	80
Sources of learning	731	58,52	13,29	19	95
Planning of learning	731	25,29	5,71	8	40
Quality reading	731	18,31	4,63	5	25
Effective memorizing	731	25,27	5,84	7	35
<b>SUS score</b>	731	186,17	32,65	55	275

Key: N - number of respondents; M - arithmetic mean; SD - standard deviation; Min - the minimum value; Max - maximum value

Descriptive indicators in Table 2 indicate that the average value of the SUS-scaler and all its subtests are slightly above the theoretical average score that could be expected. However, in order to give precise answers to the question of how high school students strategic approach to learning materials, based on the obtained arithmetic means and standard deviations, we performed categorizing respondents into those who do not use learning strategies and those that strategic approach to learning materials. The criterion that was used for such cut off categorization was one standard deviation from the average results. In this way, we received information that out of the total number of respondents (N = 731), 621 of them (84.9%) falls into the category of students which do not use learning strategies while working on learning materials, while 110 students (15.1%) use strategic approach to learning. Based on these results we conclude that we cannot accept the first hypothesis of our research.

This data is not very encouraging and it tells us that it is very little done in schools in terms of educating students to strategic approach to learning. It is therefore necessary in schools to develop effective models of educating students for learning to learn, and to stimulate new research regarding this issue. Research done by Suzić (2004) showed that the training program for learning can be very effectively implemented already in the beginning of school education, from the first years of schooling. He conducted the experimental program "Learning to learn" on students of elementary school. This program includes a series of exercises and workshops that introduce students to techniques for effective memorizing and learning. In a short period of time students have mastered and used learning techniques efficiently using regular curriculum material.

Since we concluded in the previous discussions that learning to learn must be learned, it is a great responsibility and role of teachers to develop these competencies in students at any level of education. This research has shown that even previous (elementary school), and even the current (high school) level of education has not contributed to the development of strategic learning. Therefore, the school and the teachers are expected to invest additional effort and commitment to the plan to stimulate strategic learning in high school students. Otherwise, as pointed out by Antić (2015), we will have young people and future professionals who have not mastered a deeper understanding of learned content, and who are not prepared for self-education and lifelong learning. Therefore, reasonable small steps in encouraging students to learn to learn are desirable. Suzić (2004) points out that there is a reasonable assumption, built on the basis of few researches, that students develop their own learning strategies from a number of small learning techniques which they apply by transfer on related content. In this context, we can talk about the need for the construction of pedagogy that will educate students to learn.

### Learning strategies of high school students in relation to the categorical variable grade

The second hypothesis of our research is that the years spent in school educated students regarding to strategic learning. This hypothesis would be best to prove by using longitudinal research on the same sample of students. In our study we compared a larger number of students of first and third grade, assuming that the competence of students in the use of learning strategies would be in favor of students of third grade. We assumed that the arithmetic means measured in students of first and third grade will give statistic significant parameters if they are statistically significant different. In pursuit of these differences, we used t-test as a measure of statistical significance among students of first and third grade. When it comes to the SUS-scaler, only the reading subtest quality data does not meet the assumption of equality of variances ( $p = 0.022$ ), and in this case we are using the value of t-test calculated without assuming equality of variances. Some measures of descriptive statistics, as well as the t-test for categorical variable grade are presented in Table 3.

Table 3: Learning strategies in relation to the categorical variable grade (t-value)

	Grade	Number of respondents	Arithmetic mean	Standard deviation	t	p
Notes	First	370	59,85	11,46	2,54	<b>0,011</b>
	Third	361	57,68	11,57		
Sources of learning	First	370	60,41	12,86	3,93	<b>0,000</b>
	Third	361	56,58	13,46		
Planning of learning	First	370	26,24	5,35	4,58	<b>0,000</b>
	Third	361	24,33	5,90		
Quality learning	First	370	18,82	4,38	3,05	<b>0,002</b>
	Third	361	17,78	4,82		
Effective memorizing	First	370	25,53	5,64	1,23	0,220
	Third	361	25,01	6,02		
SUS- score	First	370	190,84	31,78	3,96	<b>0,000</b>
	Third	361	181,38	32,87		

Key: N – number of respondents; M – arithmetic mean; SD – standard deviation; t – t-test; p – statistical significance

From Table 3, it is evident a statistically significant difference is present in the responses of students of first and third grade at the SUS-scaler and most of its subtests. The values of arithmetic means in Table 3 tell us that the students of first grade achieve better results in the SUS-scaler and all subtests of this instrument. The difference was not statistically significant only in the subtest Effective memorizing ( $t = 1.23$ ;  $p = 0.220$ ). We interpret this with the fact that the traditional school requires students to memorize an enormous amount of material, expecting students to focus on reproduction and memorizing, more precisely, on the lowest forms of cognitive processing by Bloom's taxonomy. In doing so, students are not referred to techniques of effective memorizing. Students at the beginning of her high school education, thus, have equal access to techniques for effective memorizing just like the students at the end of their secondary education. It would be here desirable to develop a serious program for educating high school students to easily and efficiently memorize. Suzić (2005) gives us some theoretical elaboration. It is regarding to techniques for effective memorizing which would introduced students to the system for orienting in information, to the knowledge of separating important from unimportant, to fast reading and other activities to facilitate and enhance effective memorizing. Thus, the data above tell us that the years spent in school does not educate students when it comes to strategic learning. These data indicate that schools do little work on the introduction and education of students to a strategic approach to learning. The students are expected to learn on a daily basis large amounts of content from different fields, but rarely when they were provided information on proven strategies that will enable them to efficiently and effectively learn. Students regarding this issue usually are left alone, without clear instructions on how to learn. Therefore, the question arises how schools can contribute to the development of strategic learning? Here we

lack consistent and experimentally verified programs of development of strategic learning, which would go in the direction of pointing to the important role of school and teaching in educating students to strategic approach to learning. Also, the new research would be welcome, from checking of efficient memorizing to complete education for new learning strategies.

For general SUS scores were calculated the extent of the impact of the variable grade, and we got the information that eta squared is equal to 0.02. Koen guidelines (according to Pallant, 2009) for the interpretation of this size, tells us that it was a small impact. More precisely, the grade differences explain 2% of variance of the general SUS score.

Since the compared students were from first and third grade, and taking into account the sign of t-test on all subtests of the SUS-scaler (which is positive), it is clear that the difference in the expression of strategic is more noticeable in first grade students. This situation leads us to the conclusion that we cannot accept our second hypothesis of the research. More precisely, the years spent in school do not prepare students for strategic learning.

#### **Type of high school and learning strategies**

According to the third hypothesis of this study, it was expected that the students of Gymnasium and Secondary Commercial School would show a higher level of development of learning strategies in relation to students of apprenticeships. Since the data on the variables that represent learning strategies meet the requirements imposed by parametric procedures (normal distribution), we tested this hypothesis using single factor analysis of variance (ANOVA) and Fisher coefficient (F-test) as a measure of statistical significance among students of different high schools.

Table 4 provides insight into some indicators of descriptive statistics, as well as the results of single-factor univariate ANOVA.

Table 4. Learning strategies regarding to the type of high school (ANOVA)

Variable	Secondary school	Number of respondents	Arithmetic mean	Standard deviation	F	p
Notes	Gymnasium	264	60,41	10,28	19,30	<b>0,000</b>
	Secondary Commercial school	240	60,63	10,86		
	Apprenticeships	227	54,92	12,72		
	Total	731	58,78	11,56		
Sources of learning	Gymnasium	264	60,52	11,91	34,39	<b>0,000</b>
	Secondary Commercial school	240	61,77	12,84		
	Apprenticeships	227	52,76	13,48		
	Total	731	58,52	13,29		
Planning of learning	Gymnasium	264	24,97	5,08	3,65	<b>0,027</b>
	Secondary Commercial school	240	26,10	5,32		
	Apprenticeships	227	24,82	6,65		
	Total	731	25,29	5,71		
Quality reading	Gymnasium	264	19,36	3,97	24,34	<b>0,000</b>
	Secondary Commercial school	240	18,73	4,59		
	Apprenticeships	227	16,63	4,91		
	Total	731	18,31	4,63		
Effective memorizing	Gymnasium	264	26,27	4,62	21,04	<b>0,000</b>
	Secondary Commercial school	240	26,09	5,37		
	Apprenticeships	227	23,24	6,98		
	Total	731	25,27	5,84		
SUS-scaler	Gymnasium	264	191,53	26,99	32,17	<b>0,000</b>
	Secondary Commercial school	240	193,33	30,69		
	Apprenticeships	227	172,36	36,31		
	Total	731	186,17	32,65		

Key: N – number of respondents; M – arithmetic mean; SD – standard deviation; F – Fisher coefficient; p – statistical significance

Table 4 shows that the responses of students with regard to the type of high school differ significantly on the general score of the SUS-scaler and all its subtests. According to the values of arithmetic means we can notice that the students of apprenticeships achieved significantly lower values on the general score of the SUS-scaler compared to students of Gymnasium and Secondary Commercial School.

We calculated eta squared for the general SUS scores, and got the information that its value is 0.08. Koen (accord-

ing to Pallant, 2009) interpreted this value eta squares as a secondary effect of the independent variable on the dependent variable.

After we found a statistically significant difference in the general score of the SUS-scaler and all its subsets, with the help of Fisher's coefficient, we wanted to know precisely where the difference between high school students, High School and apprenticeships are. This was allowed by using the process of multiple comparisons and Tukey's HSD test (Tukey HSD Post Hoc test).

Table 5. Post Hoc comparisons of the categorical variable type of secondary school

	Type of secondary school		Significant differences	p
Notes	1	2	-0,22	0,974
		3	5,49*	<b>0,000</b>
	2	3	5,71*	<b>0,000</b>
Sources of learning	1	2	-1,25	0,512
		3	7,76*	<b>0,000</b>
	2	3	9,01*	<b>0,000</b>
Planning of learning	1	2	-1,13	0,067
		3	0,15	0,951
	2	3	1,28*	<b>0,039</b>
Quality reading	1	2	0,63	0,252
		3	2,74*	<b>0,000</b>
	2	3	2,10*	<b>0,000</b>
Effective memorizing	1	2	0,17	0,940
		3	3,02*	<b>0,000</b>
	2	3	2,85*	<b>0,000</b>
SUS-scaler	1	2	-1,79	0,796
		3	19,17*	<b>0,000</b>
	2	3	20,97*	<b>0,000</b>

Key: \* significant difference at level  $p < 0,05$ ; 1 - Gymnasium; 2 – Secondary Commercial School; 3 – Apprenticeships

In Table 5 we clearly see that the students of apprenticeships achieved significantly lower values on the general score of the SUS-scaler compared to students of Gymnasium and Secondary Commercial School. The procedure of multiple comparisons and Tukey's HSD Post Hoc comparisons, shown in Table 5, has gave us more accurate interpretations when it comes to the differences in the responses of students with regard to the type of high school. The study found no differences in the responses of students of apprenticeships and from Gymnasium students and Secondary Commercial School in the general score of the SUS-scaler and subtests of this instrument: Notes, Sources of learning, Quality reading, Effective memorizing. On subtest Planning of learning difference were only noticed between students of apprenticeships and students High School. Also, it was noted that there is no difference in the responses of students of Gymnasium and Secondary Commercial School on any variable that has been the subject of multiple comparisons. These results lead to accepting the third hypothesis of our study, which is that students of Gymnasium and Secondary Commercial School have a higher level of development of learning strategies in relation to students of apprenticeships.

Now we have to ask ourselves what is the pedagogical value of this finding? Today's system of education in schools that prepare students for apprenticeships is inadequate for students. The point is that their school does

not offer them conditions for successful learning, and that the programs are too difficult and with little practical content. This is not in accordance with the needs of society, but also with the needs of the students. Therefore, the educational authorities have to consider the question of innovating curricula for schools that prepare students for apprenticeships. It is certain that these students can be motivated as gymnasium students, and strategic approach to learning, only if we provide them with programs in which they can succeed.

## CONCLUSIONS AND PEDAGOGICAL IMPLICATIONS

The question of how to encourage and promote learning strategies among students still represents an open question in educational theory and practice. Results obtained from the research have a particular pedagogical value because we shed light on some important questions that must be answered if we want to go in the direction of sending students into the lawfulness of strategic learning.

In examining the level of development of learning strategies of high school students, the difference with respect to the grade the type of high school students were attending, on a sample of 731 high school students in Tuzla, we have reached a result that allows the presentation of basic conclusions and thereby provide answers to the given hypothesis.

In fact, with our research, we came to devastating information that as many as 84.9% of high school students in learning and work at the school material do not use any learning strategies. The reasons for this state should, first of all, be sought in the lack of knowledge of students of the lawfulness of strategic learning. It is for these reasons students should offered such education system that will, in addition to educating students for today required skills, which includes proven methods, techniques and strategies necessary for fast and efficient learning. It is for teachers to allow students to use as many senses and ways of learning (listening, reading, discussion, writing, critical reasoning ...), and carry out experiments and practically demonstrate what is being said. Also, students should be provided with a wide repertoire of choice of alternative models of learning which would suit them best.

As a result of our research, we have the fact that the students of the first grade achieve better results in the SUS-scaler and all subtests of this instrument in relation to the students of third grade. A statistically significant difference in the responses of students first and third grade at SUS-scaler and most of its subtests was confirmed. According to the results, the years spent in school do not educate students when it comes to strategic learning. It is therefore essential that the teaching process devote more attention to stimulating and developing strategic learning in high school students. However, there may be a problem, because students often see mastering of strategies and ways for successful learning as additional learning and therefore may show aversion. Excessive curricula and lack of practice at the level of high school classes further complicate the problem and discourage students to look for successful methods and learning strategies themselves.

The results of our study have confirmed that students of apprenticeships achieved significantly lower scores on the SUS-scaler and all its subtests compared to students of Gymnasium and Secondary Commercial School. This result was expected given that students of apprenticeships, in most cases, do not continue their education after high school, and are more focused on mastering practices. With this result, therefore, we have diagnosed at what level of development are individual learning strategies in high school students, and thus we have provided guidelines for all future researchers of this issue, and also teachers and practitioners for the further development and improvement of these strategies.

We hope that our research will encourage many teachers and practical pedagogues in their school, to examine the development of learning strategies in their sample of students. Further studies of learning strategies of high school students should enable the verification of the validity of our findings, because it is a concept that in our environment is not sufficiently explored. One comprehensive study should be conducted to discover the causes of underdevelopment of learning strategies among students, and the role and place of the school when it comes to educating students to strategic approach to learning. Information on the application in classrooms of specific programs which would test effective and pedagogically desirable changes in this area would be extremely useful.

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## GAME THEORY IN THE ANALYSIS OF MONETARY AND FISCAL POLICY ON THE EXAMPLE OF REPUBLIC OF CROATIA

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### ABSTRACT

*The paper explored the interaction of monetary and fiscal policy through game theory. In the first part of the paper it is in short presented theoretical basis of fiscal and monetary policy, and then explained the theoretical part of game theory also in short. After theoretical part, the analysis was conducted based on the collected data and then the results of the paper are presented. A function of payments for monetary and fiscal policy have been created on the basis of data inflation, unemployment rate, total liquidity and the rate of government spending in the Republic of Croatia. Multiple linear regression, which is processed using software solutions Eviews, derived parameters for independent variables. In this way, holders of monetary and fiscal policy can decide on quantities of independent variables, and based on that, determine their strategy. The obtained result, based on the functions of payments for monetary and fiscal policy, generated the matrix of payments. Solving the matrix of payments resulted with non-dominated solutions. For solving the problem, PROMETHEE method has been applied. Analysing the game by using the PROMETHEE method, it generated optimal solutions in terms of assumption when a greater impact on the economy, in this case on the inflation and unemployment, has the fiscal policy and in terms of assumption when a greater impact on the economy has monetary policy. As the optimal results we obtained only two strategies although the game has been repeated in many stages.*

**Key words:** *monetary policy, fiscal policy, game theory, PROMETHEE method*

### INTRODUCTION

Game theory represents strategic interaction between two or more subjects. It was developed by the mathematicians but it is applicable not only on mathematical sciences but also on others science. For example evolutionary biologists have a rich tradition of borrowing analytical tools from economists to address a diverse array of problems in nature (Sherlin, 2012). Most famous example in game theory might be prisoner's dilemma, where focus is on the interactions between two prisoners. Both prisoners are faced with few scenarios depending on strategies they will choose.

This paper researched interaction between fiscal and

monetary policy within the frame of game theory and preference ranking method. In the first part of the paper it is represented theoretical part of the monetary and fiscal policy. After that, terminology used in game theory approach and will be shown.

Data collected will be processed and presented in the part with numerical part of the paper. Numerical approach is consisting from two smaller parts. Reason for that lies in the dominant strategies in both players, monetary and fiscal authority. Such a dominant strategies enabled finding the equilibrium. Second part of the numerical approach consists of the PROMHETHEE method. In the last part the results and conclusion are shown.

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## MONETARY AND FISCAL POLICY AND GAME THEORY

### Monetary and fiscal Policy

In the simplest way explained, monetary policy is how central banks manage liquidity to create economic growth (Amadeo, 2017). Implementation of the monetary policy is carried on by the central bank. There are two types of monetary policy: expansionary and restrictive monetary policy. Expansionary monetary policy is when a central bank uses its tools to stimulate the economy which increases the money supply, lowers interest rates, and increases aggregate demand (Amadeo, 2016). Restrictive monetary policy means low money supply in the financial system and that has the opposite effects on the economy unlike the expansionary monetary policy. In this paper main assumption is, when it comes to function of payments for monetary policy, that total liquidity in financial system has the most effect on the inflation and that central bank control total liquidity. "At its monetary policy meeting on 2 June 2016, the Governing Council assessed that the comprehensive package of decisions taken in early March underpins the momentum of the euro area's economic recovery and fosters the return of inflation to levels below, but close to, 2%" (European central bank, 2015). Considering the aim of the European central bank, it will be supposed that the same goal, considering the rate of inflation, has the Croatian central bank (HNB) (Croatian Central Bank, online).

Fiscal policy is the use of government spending and taxation to influence the economy (Horton and El-Ganainy, 2009). When government wants to boost economy they increase spending or decrease taxes. In the opposite case, when government wants to prevent economy from overheating, it decreases spending or increases taxes. In this paper main assumption for the fiscal policy is that government spending effects the most on the unemployment rate in Croatia. Main reason for this assumption is fact that total GDP of Croatia is consisting of government spending with share of 46,9% in 2015 (Eurostat, 2015). Goal for fiscal authority is decrease unemployment rate because as much as possible because it is assumed that unemployment rate is the most visible macroeconomic indicator which represents how successful government works. Low unemployment rate increases possibilities for winning the next parliament election.

### Game theory

In all game theoretic models the main entity is the player, and he may be faced as an individual, a group of individuals, or a government, making decisions and if players in a game act independently of each other, then we have a non-cooperative model while if they correlate their actions, then we have a cooperative solution (Santos et al., 2010). The goal of game theory is to define also the most favourable behaviour of participants in a given conflict situation or the game, and that definition is assume rationality (Bosnjak, 2017). Model in this paper is based on the assumption that monetary and fiscal authority are in conflict. In that way we have non-cooperative game (Perić, 2015).

### ANALYSIS OF CONFLICT SITUATION BETWEEN MONETARY AND FISCAL POLICY IN CROATIA

The model in this paper will analyze the interaction of monetary and fiscal policy in the Republic of Croatia using tools of the game theory. The main assumption of the analysis is that monetary and fiscal policy are in mutual conflict influence. Primary objective of the central bank, which has authority of monetary economic policy, is to control inflation. Target Inflation rate of the European Central Bank is below but close to 2% (Draghi, 2016). Therefore, it will be assumed that the target inflation rate of the Croatian National Bank will also be below but close to 2%. In this model it will be assumed that central bank achieves its objective through monetary aggregates. The variable which is controlled by the central bank in the model is total liquid assets. The objective of fiscal policy or government is a greater GDP growth and other macroeconomic indicators such as employment, exports, wages and others. In the model, it will be assumed that the unemployment rate is the most visible indicator that shows how successful government runs the country. Therefore, the objective of a fiscal authority is a reduction in the unemployment rate to ensure political points to win another election. Furthermore, it will be also assumed that government spending is an instrument through which the fiscal authority seek to reduce the unemployment rate. The conflict assumption between fiscal and monetary authority arises from the short-term goal of a political party that holds the power in the government.

The political party uses government spending such as public works and other investments that are not a priority at the given moment, to decrease unemployment rate and therefore such moves lead to procyclical movements. Therefore, the central bank takes steps to stabilize the exchange rate and inflation.

### Payment function for fiscal authority

The payment function for fiscal policy is a linear shape and is obtained as a result of multiple linear regression form  $y = c + \alpha x_1 + \beta x_2$ , where:  $y$  – unemployment rate,  $c$  – constant,  $x_1$  – government spending,  $x_2$  – inflation rate,  $\alpha$  – regression coefficient for government spending,  $\beta$  – regression coefficient for inflation rate, regression was carried out using Eviews software solutions. Through multiple linear regression coefficients  $\alpha$  and  $\beta$  were derived. Annual data on unemployment and inflation rate were used as input for calculating the parameters of linear regression. Processing data through EViews software solution resulted with regression coefficient  $\alpha$  and  $\beta$ , - 0,202875 and - 0,741174 respectively.

In economic theory, interpretation of the coefficients would mean that the increase in government spending for the unit, while all the other variables remain unchanged, would lead to an approximate reduction of unemployment on average of 0.20287 percentage points (Bahovec, online). Also, a negative sign in front of the coefficient  $\beta$ , agrees with economic theory and such an inverse relationship between the unemployment rate and the inflation rate can be found in a Phillips curve (Blanchard and Johnson, 2012). Using the equation from multiple regression with calculated coefficients ( $\alpha$  and  $\beta$ ) and given strategies for fiscal authority, matrix of payment was created.

### Payment function for monetary authority

Function of payments for monetary authority is the same shape as the function of payment for fiscal authority but variables and parameters are changed. Dependent variable  $y$  represents the rate of inflation and the independent variables  $x_1$  and  $x_2$  are the total liquid assets and government spending rate, respectively. Furthermore, function of payments for monetary authority is shown in form:  $y = c + \alpha x_1 + \beta x_2$ , where:  $y$  – inflation rate,  $c$  – constant,  $x_1$  – total liquid assets,  $x_2$  – government spending rate,  $\alpha$  – regression coefficient for total liquid assets,  $\beta$  – regression coefficient for government spending rate. Annual data on inflation rate and total liquid assets were used as input for calculating the parameters of linear regression. These data are for period from 2005. to 2015.

Processing data through EViews software solution resulted with regression coefficient  $\alpha$  and  $\beta$ , 0,374395 and 0,125136, respectively.

In economic theory, interpretation of the coefficients would mean that the increase in total liquid assets for the unit, while all the other variables remain unchanged, would lead to an approximate increase of inflation on average of 0,374395 percentage points, and increasing government spending for the unit, while all the other variables remain unchanged, lead to an increase in inflation by an average of 0.125136 percentage points (Bahovec, online).

### Matrix of payments for both players

In this chapter, matrix of payments for monetary and fiscal authority, is shown and it is visible every payment for each strategies combination that monetary and fiscal authority choose at given moment. If monetary authority chooses to play strategie 2,1, and fiscal authority chooses to play strategie 10, that strategies combination will results with inflation rate of 4.31% and unemployment rate of 14.66%. Table below shows matrix of payments.

Table 1. Matrix of payments for both players

	Strategy	Monetary authority					
		1.5	1.8	2.1	2.4	2.7	3
Fiskal authority	4	16.32	16.10	15.87	15.65	15.43	15.21
		1.99	2.03	2.06	2.10	2.14	2.18
	6	15.91	15.69	15.47	15.25	15.02	14.80
		2.74	2.77	2.81	2.85	2.89	2.92
	8	15.51	15.28	15.06	14.84	14.62	14.40
		3.49	3.52	3.56	3.60	3.64	3.67
	10	15.10	14.88	14.66	14.43	14.21	13.99
	4.23	4.27	4.31	4.35	4.38	4.42	
12	14.70	14.47	14.25	14.03	13.81	13.58	
	4.98	5.03	5.06	5.10	5.13	5.17	
14	14.29	14.07	13.84	13.62	13.40	13.18	
	5.73	5.77	5.1	5.84	5.88	5.92	

Source: authors calculations by using Decision Lab software

This game, represented in the matrix of payment, does not provide equilibrium because strategies in both players are dominant. Furthermore, the game in the matrix of payment will be analysed by the multiple criteria, where will be assumed that minimum inflation rate is objective for monetary authority. Target inflation rate below but close to 2%, from European Central Bank (ECB), is the reason for minimum criterion and it is assumed that Croatia Nation Bank (HNB) target the same inflation rate. Fiscal authority tends to minimize unemployment rate. Hence their criterion will also be minimum. The game will be repeated in two stages, based on the preference functions. The multicriterial analysis will be used to find equilibrium strategies by using PROMETHEE method with software solution Decision Lab. Using a PROMETHEE method it is necessary to determine the  $\sigma$  parameter. For fiscal authority, it is set to be 1 and for monetary authority, it is set to be 1.5.

The parameters are determined to be slightly larger than the standard deviation (Perić, 2008). The game

will repeat in two stages and in each stage, weight coefficient will be changed. Hence, in the first stage weight coefficient will be 0.7 and 0.3 for fiscal and monetary authority, respectively. In the second stage weight coefficient will be 0.3 and 0.7 for fiscal and monetary authority. A difference between stages is the influence that is given either to fiscal or monetary authority. The blue color in the matrix of payment represent payoffs for fiscal authority and the red color represents payoffs for monetary authority.

### Optimum result of the game

The first stage will be played under the assumption that bigger influence is given to the fiscal authority which means that stronger effect on the unemployment rate an inflation rate has government spending. Hence, the weight coefficient for fiscal authority will be 0.7 and for monetary authority 0.3. Below is shown result obtained by the software solution Decision Lab using PROMETHEE II method.

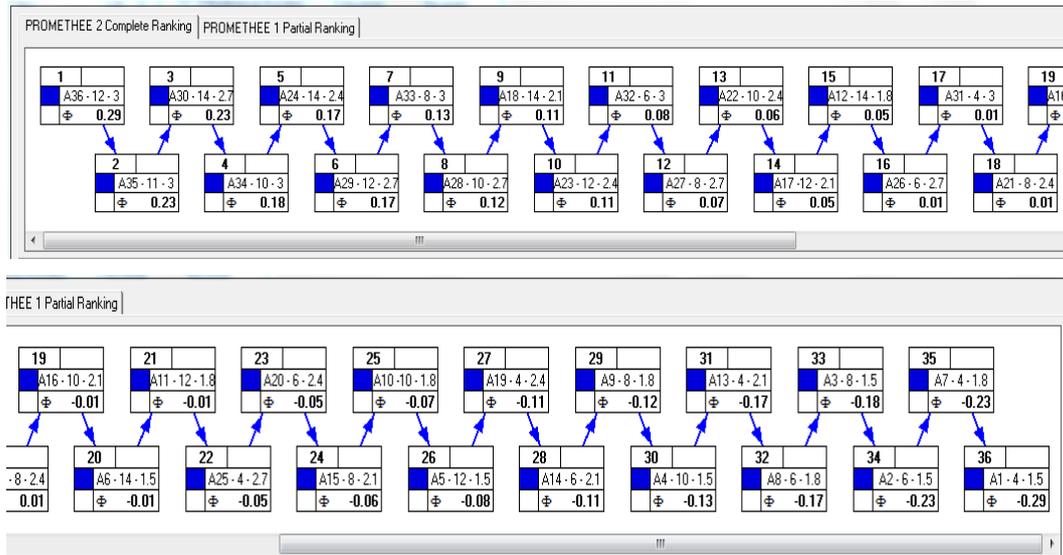


Figure1. Result from software solution Decision Lab, PROMETHEE II method.  
Source: autors' calculations by using Decision Lab software

From the above figure, it is visible that PROMETHEE II method gives the full rank of nondominated alternatives. Highest rank has A36 solution which represents payoff for the fiscal authority of 13.18 and that is also unemployment rate when both players choose to play strategies combination 14 and 3. Also under that combination payoff for monetary authority is 5.92 which represents inflation rate. This solution in an ideal economy would not be considered as optimal, but on the basis of data collected in the Republic of Croatia and the analysis of these data,

it can be found similar value in the unemployment rate and the inflation rate when the Croatian economy was on the highest growth rates in 2008. A slightly higher inflation rate of 6.1% and a lower unemployment rate of 8.5%, can be justified by the fact that the real sector is excluded from the impact on the unemployment rate and inflation. In the second stage, it is assumed that monetary authority has a bigger influence on the unemployment rate and inflation. Hence, the weight coefficient for monetary authority is set to be 0.7 and for fiscal authority 0.3.

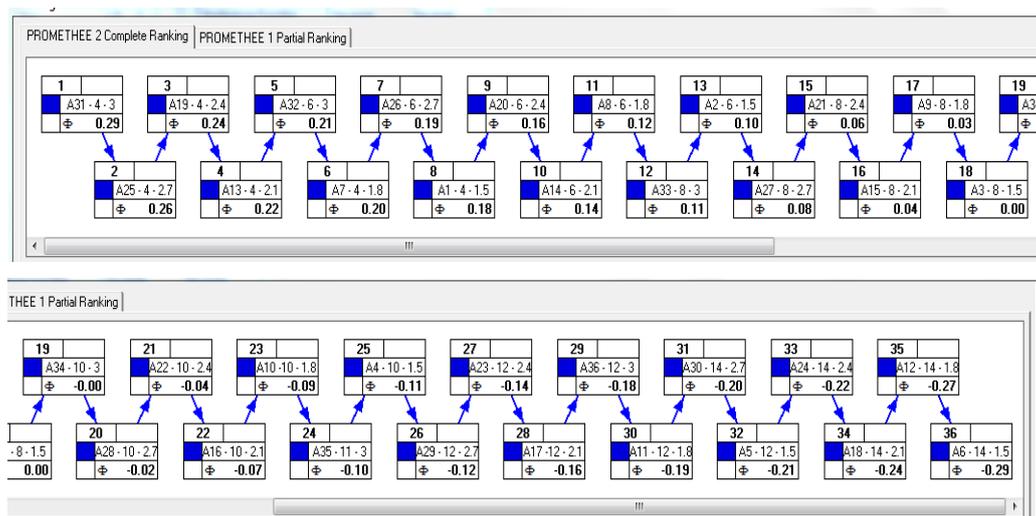


Figure2. Result from software solution Decision Lab, PROMETHEE II method.  
Source: Authors' calculations by using Decision Lab software

Second stage results with a different optimal alternative. In this stage optimum alternative is A31. This alternative is obtained by strategies combination of 4 and 3. Strategies 4 is played by fiscal authority and strategy 3 is played by the monetary authority. This solution represents payoff for fiscal authority of 15.2 and that is unemployment rate in procentage. Payoff for the monetary authority is 2.2 which is inflation rate in procentage. This solution represents the optimum because the primary objective of the Croatian National Bank is price stability.

## CONCLUSIONS

Fiscal and monetary policies are the main economic policies that direct movement of the economy in countries. Efficient and effective implementation is therefore crucial for the growth of GDP.

With the implementation of fiscal policy major impact have political cycles and the political organization of the country. On the other hand, monetary policy is strongly correlated with the development of the money as the main payment methods. At the beginning of the monetary system with money as the main payment method, development and economic growth are significantly accelerated. However, the strong economic development has brought certain risks for the monetary system. For that reason, mechanisms that monitor and control the money and the money supply itself were needed. Analyzing data on government spending in the Republic of Croatia and also analyzing data on total liquidity in the Republic of Croatia, function of payment for monetary and fiscal policy were created.

Function of payments for fiscal policy has represented impact of government spending on the unemployment rate under the assumption that governments spending has the most effect on unemployment rate because of the high share of public services in the total GDP (over 46% in 2015) (Eurostat, 2015).

Implementation of monetary policy in the Republic of Croatia was a bit challenge since its independence. Generated matrix of payments, in this paper, gives nondominated alternatives because players objectives are in conflict. Optimal solution was generated by PROMETHEE method in Decision Lab software, which is suitable tool for solving this types of games. Through this work they were obtained two alternatives as the optimum solution from which only one is preferred, the one which is in line with the economic theory. The reason for the lower influence of the

Croatian National Bank on inflation in the Republic of Croatia might be because the largest commercial banks in Croatia are in foreign ownership and thus their credit policies can be crucial for attracting investment in the economy.

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## SUCCESS OF PROFESSIONAL ORIENTATION OF DEAF PEOPLE ACCORDING TO CHOSEN OCCUPATION AND EMPLOYMENT

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### ABSTRACT

*This paper presents a comparative overview of selected professions of deaf people and people with no hearing impairments within their professional orientation and occupations carried out in their workplace. The research was conducted on a sample of 238 respondents. For the evaluation of the results, descriptive analysis was used. The results showed that deaf people in 36.6% of cases are not employed in the occupation for which they have acquired professional qualifications, compared to 14.5% percent of respondents with no hearing impairments. The results indicate that it is necessary to reorganize the inefficient process of professional orientation of the deaf people, which should contribute to establishing an efficient system of employment in professions for which they are oriented.*

**Key words:** professional orientation, career choice, deaf workers and workers without hearing impairments.

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### INTRODUCTION

Deaf people belong to a very heterogeneous population, which in addition to hearing impairment usually have additional psychological and physical disorders. Hearing impairment in addition to communication difficulties leaves greater effects on the functioning of the deaf people. Although no differences in capabilities required to perform the duties and tasks in different areas were determined, there is an issue of their employment within the profession for which they are qualified. The cause of this situation can be found in the inadequate professional orientation and career choices for deaf people. With professional orientation, those people are directed to those occupations that are best suited to individual differences and abilities, specific mental and physical demands of the workplace and educational programs of individual schools.

Bujas (1968) states that the essence of the professional orientation is contained in individual psycho-physical characteristics and preferences, different requirements at workplaces in terms of abilities, skills and knowledge. The same author states that performing more poorly at a job does not mean the overall professional unfitness, but the causes can be found in a bad choice of occupation. A significant number of young deaf people and people with hearing impairment receive additional services in the context of social disability insurance (Daněk and Busby, 1999), without being involved in any production activities (Bullis et al., 1995; Bullis et al., 1997). DeCaro et al (2001) suggest that deafness can be a cultural determinant when it comes to career choice and opportunities for deaf people.

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These authors have observed that regardless of the cultural differences between countries, deaf people are directed in similar occupations based on the attitudes of employers and society, and Punch et al (2004) stated that when conducting evaluations for the choice of profession, there is a tendency of ignoring the quality of individual personality, and generally only the hearing impairment is taken into account. Communication requirements at workplace: communication in silence and noise, detection of the sound source, localization of sounds, distinguishing different sounds, very often not taken into account when choosing a profession. Although Schroedel and Geyer (2000) state that a deaf person can perform duties and tasks as successfully as their colleagues with normal hearing, if they are provided with equal educational opportunities and equal access to employment, their years of education to overcome interest, which are not in accordance with the labor market. Lane et al (1996) stated that the adoption of the Law on Professional Rehabilitation removed obstacles to hiring deaf people in government institutions, as well as in large corporations, which contributed to the extension of legislation to the private sector and allowed the expansion of the list of professions for which deaf people had been trained. There is no legislation that limits the deaf people in certain occupations, which indicates the presence of equal opportunities in access and choice of acquiring professional qualifications. Although the professional orientation is an activity that has a long tradition in the context of rehabilitation of deaf population, there were observed no positive and affirmative results, which can be linked with an adequate choice of profession and employment. Results of the research conducted by Schroedel (1992), in which teachers and counselors evaluated the ability of making decisions about the choice of profession of deaf students, which showed that that 61% of students considered to have insufficient knowledge of particular industries and that 40% of them are not aware of their professional skills and interest for performing certain occupations. Gottshall and Stefanou (2011) stated that deaf students may have difficulties in understanding their own abilities in finding a job, but that does not mean that experts should take over the decision on the choice of profession, because in this way a sense of helplessness and inability to making decisions is developing. According to research conducted by Jambor and Elliott

(2005) the cause of the incorrect view about the possibility of carrying out certain professions for deaf people may be information provided during adolescence by teachers, parents and guardians, who believe that deafness prevents an individual to engage in certain occupations and to be successful in them. Bonds (2003) stated that deaf people face difficulties in finding and keeping a job, because of inadequate training in the context of professional rehabilitation, which could be overcome with adequate education and professional training, while research conducted in the US and Australia revealed that students with hearing impairment and deaf students in regular schools were included in very few activities for planning their career choice (Punch et al., 2006; Luft and Huff, 2011; Luft, 2014). Lent et al (2000) examined the influence of social factors on the choice of occupations of deaf population, where they found that discrimination and inadequate support of the system plays an important role in career guidance and professional development of deaf people.

The influence of parents in professional orientation of deaf children is extremely important. Experience shows that parents of deaf children often do not have enough information when it comes to choice of occupation and jobs their children can perform. Since deaf children in 90% of cases have hearing parents, who usually had no previous experience or knowledge about deafness, DeCarlo et al (1983) stated that parents very often express low expectations about the professional development of their deaf children, and as the reasons for this they point out difficulties in communication and safety at the workplace. Schroedel and Carnahan (1991) came to similar findings, which stated that parents of deaf children believe that deafness limits their ability to work, and that deaf children cannot participate equally in the workplace as their peers with no hearing impairment, and also Jamieson et al (2011) stated that parents of deaf children express concern and uncertainty in educational and professional opportunities of their children. Research conducted by Weisel and Cinamon (2005) points out that parents of deaf children express low expectations toward abilities of deaf people to achieve success in carrying out various occupations. In this way, as stated by DeCaro et al (2001), the interests of deaf individuals, their intellectual abilities, and their personality traits, which are taken into account in the guidance hearing population are ignored.

Professional orientation is usually planned and implemented by persons with no hearing impairments, which by Benedict and Sass-Lehrer (2007) control the direction of education of deaf people and have a strong influence on legislative policy, research programs, curriculum, and the work of institutions engaged in professional rehabilitation.

## METHODS OF WORK

The study sample consisted of 238 subjects, aged between 18 and 65 years, divided into two subsample. The first subsample consisted of deaf subjects ( $n = 124$ ) who have a minimum of one year of experience in tasks they performed, and the other subsample consisted of subjects without hearing impairment ( $n = 114$ ), having at least one year of experience with deaf people. The study was conducted in public and private companies in which respondents had a work contract.

For data processing descriptive analysis method was used, using computer statistical program SPSS for WINDOWS 14.

### Descriptive characteristics of the research sample

The sample of deaf workers consisted of 65.3% of male respondents and 34.7% of female respondents. The largest percentage of deaf people (35.5%) was born in the period from 1961 to 1970, which were between 47 and 56 years, followed by respondents born from 1971 to 1980 (33.1%) which were 37 to 46 years, and respondents born from 1981 to 1991 (18.5%), which were between 26 and 36 years. The lowest percentage of respondents were born between

1951 and 1960 (8.1%) and had 57 to 66 years, and respondents born between 1991 and 1995 (4.8%) which were between 22 and 26 years. Respondents covered by this research are employed in the field of craft services and manufacturing (71.6%), in the service sector are present in 18.8% of cases, in the context of health care institutions (6.3%), in the mining and construction (2.4 %) and education (0.8%). The highest percentage of respondents have completed secondary education (93.5%), followed by respondents with a university degree (4%) and low-skilled workers in 2.4% of cases.

The sample of workers and foremen with no hearing impairment included 56.8% male and 43.2% of female respondents. The largest percentage of respondents (37.8%) was born in the period from 1961 to 1970, followed by respondents born from 1971 to 1980 (29.7%), from 1981 to 1990 (18%), from 1951 to 1960 (13.5 %) and the lowest percentage of respondents born from 1991 to 1995 (0.9%). Frequency of representation of workers without hearing impairment by age ranges from 22 years to 66 years of age, and the highest percentage of respondents were between 37 and 54 years (67.5%). The structure of the sample of employees and manager without hearing impairment consisted of respondents employed in the field of craft services and manufacturing (55.8%), service sector (12.5%), health care institutions (14.2%), mining and construction (11.7%) and education (5.8%). The analyzed data on the qualifications of workers show that respondents without hearing impairment in 82.9% of cases have secondary education, and a university degree in 11.7% of cases. The study also included 5.4% of respondents without education.

Table 1. Structure of subsample of deaf workers in relation to gender, age, experience and qualifications

Variable		The amount of deaf respondents		The amount of respondents without hearing impairment	
		f	%	f	%
Sex	Male	81	65,3	63	56,8
	Female	43	34,7	48	43,2
Year of birth	1951-1960	10	8,1	15	13,5
	1961-1970	44	35,5	42	37,8
	1971-1980	41	33,1	33	29,7
	1981-1990	23	18,5	20	18,0
	1991-1995	6	4,8	1	0,9
Qualification of respondents	Without education	3	2,4	6	5,4
	Secondary education	116	93,5	92	82,9
	University degree	5	4,0	13	11,7

## RESULTS AND DISCUSSION

Table 2 shows the ratio of completed professional education of the deaf, their acquired qualifications and jobs in which they are employed. Examining these results, it can be concluded that the largest percentage of deaf people were educated to work as tailors (16.1%), shoemakers (9.7%), car painters (8.9%), tinsmiths (8.1) bookbinder (7.3%), locksmiths (6.5%) and sign maker (6.5%). The same percentage (3.2%) of deaf people were educated for therapists, hairdressers and mechanical technicians, followed by opticians, draftsmen and photographers (2.4%), dental technicians and the audiologists (1.6%). In a small percentage (0.8%) respondents with secondary education have gained qualification for the professions of precise mechanics, metal grinders, upholsterers, economic, tourist and leather technicians, car electricians, graphic artists, plumbers, electricians, stamp-makers, jewelers, installers of central heating, web and product designers, and in the context of university degree they were educated for economists, social workers and construction engineers, each with a percentage of 0.8%.

Also, to similar data come Boutin and Wilson (2009), which stated that persons with hearing impairment were educated and employed in the context of professional activities (art, education and managerial jobs), while deaf people were oriented to crafting professions (operators of the machinery, metal and wood processing, welders, sign maker, as well as jobs in the context of transporta-

tion, preparation and processing of food, janitors, etc.), explaining this practice in a way that in the context of expert jobs a greater interaction with the hearing environment is expected, which requires greater communication skills.

Schildroth et al. (1991) presented data that 20% of deaf workers, after high school, were employed in jobs related to food preparation, 17% in jobs related to technical and office work, and 10% in housekeeper jobs. Research conducted by Capella (2003), which compared the effectiveness of professional rehabilitation of deaf persons and persons without hearing impairment, indicating that deaf people in 11.3% of cases were fewer employed in the context of expert and technical professions, and in 11.5% of cases over-represented within manufacturing jobs.

Examination of the data relating to the completed education for tailors, sign maker, physical therapists, dental technicians, metal grinders, electricians, stamp-makers, web designers, civil engineers and economists, it is recognized that deaf people are employed in workplaces, which are consistent with their achieved qualification. From a total of 33 professions for which deaf people were trained in the process of professional rehabilitation, at 10 of them deaf people are working within their acquired qualifications, indicating that in 69.7% of all professions skilled deaf people are not represented. The largest deviations in completed educations and jobs is reflected in jobs like shoemakers, tinsmiths, hairdressers, opticians and photographers.

Table 2. Comparative display of completed educations and workplaces where employees are deaf respondents

Profession	Completed education		Workplace		Working in their profession	
	f	%	f	%	f	%
Tailor	20	16,1	22	17,7	20	16,1
Shoemaker	12	9,7	7	5,6	7	5,6
Car painter	11	8,9	8	6,5	8	6,4
Car tinsmith	10	8,1	2	1,6	2	1,6
Bookbinder	9	7,3	7	5,6	7	5,6
Locksmith	8	6,5	6	4,8	6	4,8
Sign maker	8	6,5	8	6,5	8	6,4
Physiotherapist	4	3,2	4	3,2	4	3,3
Hairdresser	4	3,2	0	0	0	0
Mechanical technician	4	3,2	3	2,4	3	2,4
Optician	3	2,4	0	0	0	0
Technical drawer	3	2,4	2	1,6	2	1,6
Photographer	3	2,4	0	0	0	0
Dental technician	2	1,6	2	1,6	2	1,6
Audiologist	2	1,6	1	0,8	1	0,8
Precise mechanic	1	0,8	0	0	0	0
Upholsterer	1	0,8	0	0	0	0
Metal grinder	1	0,8	1	0,8	1	0,8
Economic technician	1	0,8	0	0	0	0
Car electrician	1	0,8	1	0,8	1	0,8
Leather technician	1	0,8	0	0	0	0
Graphic artist	1	0,8	0	0	0	0
Plumber	1	0,8	0	0	0	0
Electrician	1	0,8	0	0	0	0
Stamp-maker	1	0,8	1	0,8	1	0,8
Jeweler	1	0,8	0	0	0	0
Installer of central heating	1	0,8	0	0	0	0
Economist	1	0,8	1	0,8	1	0,8
Web designer	1	0,8	1	0,8	1	0,8
Civil engineer	1	0,8	1	0,8	1	0,8
Product designer	1	0,8	0	0	0	0
Social worker	1	0,8	0	0	0	0
Tourist technician	1	0,8	0	0	0	0
Uneducated workers	3	2,4	18	12,1	3	2,4
Total	124	100	96	74,8	79	63,4

Table 3 shows the ratio of completed educations for professions of people without hearing impairment, acquired qualifications and jobs in which they are employed. By examining the results it can be concluded that the highest percentage of persons without hearing impairment were qualified to professions like physiotherapists (14.4%), tailors (7.2%), graphic artists (7.2%), mechanical technicians (6.3%) and economic technicians (5.4%).

The same percentage of respondents (4.5%) were educated for professions of audiologists, electricians, and mining technicians, following by economic tech-

nicians, carpenters and shoemakers (3.6%), civil and electrical engineers and lawyers (2.7%), as well as drivers, mechanics, administrative technicians and turners (1.8%). In a smaller percentage of respondents (0.9%) with secondary education have gained qualification for the professions of car painters, locksmiths, instrument technicians, electronic technicians, painters, ceramists, telecommunications technicians, gas system installers and plumbers, fashion designers, veterinary technicians, and within the university education economists, social workers, civil and electrical engineers and teachers each with a percentage of 0.9%.

The largest deviations in completed educations and jobs is reflected in the professions of tailors and mechanical technicians. From a total of 34 professions for which respondents without hearing impairments were educated in their professional rehabilitation, it

was found that in all professions skilled workers were present. Looking at Table 3 it can be recognized that 84.5% of respondents without hearing impairment work in the workplace for which they have professional qualifications.

Table 3. Comparative display of completed education and jobs in which respondents without hearing impairment are employed

Profession	Completed education		Workplace		Working in their profession	
	f	%	f	%	f	%
Physiotherapist	16	14,4	16	14,4	16	14,4
Tailor	8	7,2	12	10,8	8	7,2
Graphic artist	8	7,2	7	6,3	7	6,3
Mechanical technician	7	6,3	2	1,8	2	1,8
Economic technician	6	5,4	5	4,5	5	4,5
Audiologist	5	4,5	5	4,5	5	4,5
Electrician	5	4,5	3	2,7	3	2,7
Mining technician	5	4,5	5	4,5	5	4,5
Merchant	4	3,6	2	1,8	2	1,8
Carpenter	4	3,6	4	3,6	4	3,6
Shoemaker	4	3,6	4	3,6	4	3,6
Construction technician	3	2,7	3	2,7	3	2,7
Electrical technician	3	2,7	3	2,7	3	2,7
Lawyer	3	2,7	1	0,9	1	0,9
Driver	2	1,8	2	1,8	2	1,8
Car mechanic	2	1,8	1	0,9	1	0,9
Administrative worker	2	1,8	2	1,8	2	1,8
Turner	2	1,8	2	1,8	2	1,8
Plumber	1	0,9	1	0,9	1	0,9
Car painter	1	0,9	1	0,9	1	0,9
Civil engineer	1	0,9	1	0,9	1	0,9
Social worker	1	0,9	1	0,9	1	0,9
Locksmith	1	0,9	1	0,9	1	0,9
Instrument technician	1	0,9	1	0,9	1	0,9
Electronic technician	1	0,9	1	0,9	1	0,9
Painter	1	0,9	1	0,9	1	0,9
Ceramist	1	0,9	1	0,9	1	0,9
Telecommunication technician	1	0,9	1	0,9	1	0,9
Teacher	1	0,9	1	0,9	1	0,9
Gas system installer	1	0,9	0	0	1	0
Fashion designer	1	0,9	0	0	0	0
Veterinary technician	1	0,9	0	0	0	0
Economist	1	0,9	1	0,9	1	0,9
Electrical engineer	1	0,9	1	0,9	1	0,9
Uneducated workers	6	5,4	9	8,1	6	5,3
Total	111	100	101	91,6	95	84,5

Table 4 shows the representation of jobs at which the respondents are employed in relation to their acquired qualification, where it can be found that the highest percentage of both groups of respondents performed tasks in the context of their acquired qualifications, but also differences in the performance of unskilled and assistant workers, and respondents who have completed secondary education. The obtained results indicate that 12.1% of deaf respondents, compared to 1.8% of workers without hearing impairment, educated for professions of opticians, painters, locksmiths, graphic artists, plumbers, bookbinders, tailors, photographers and central heating installers are engaged in jobs for which uneducated workers qualify for.

Deaf respondents performing the activities of assistant workers in 4.8% of cases, are educated for pro-

fessions of tinsmiths, hairdressers, shoemakers and bookbinders, unlike respondents without hearing impairment which do not work as assistant workers. To similar results also came Johnson (1993), Welsh (1993) and Rosengreen (2007), which stated that much smaller selection of professions offered to deaf people in relation to people without hearing impairment in the course of their professional education, and they are often degraded at jobs which are not in accordance with their acquired qualifications. Ozdowski (2004) points out that although deaf people have a good knowledge and sufficient qualifications to perform certain tasks, they usually do not get the job for which they are qualified, and also Schroedel and Geyer (2000) state that 13% to 15% of deaf workers, covered by their research, have a higher level of education compared to the tasks they perform.

Table 4. Representation of jobs in relation to acquired qualification

Workplace	The amount of deaf respondents		The amount of respondents without hearing impairment	
	f	%	f	%
Workplace in accordance with acquired qualification	102	82,2	106	95,5
Workplace unqualified workers respondents with secondary school education	15	12,1	2	1,8
Workplace assistant worker respondents with secondary school education	6	4,8	0	0
Workplace secondary school education respondents with university degree	1	0,8	3	2,7
Total	124	100	111	100

## CONCLUSION

The results showed that deaf people in 36.6% of cases are not employed in the occupation for which they have acquired professional qualifications, compared to 14.5% percent of respondents with no hearing impairments. The data obtained indicates that professional orientation of deaf people does not follow the market interest and the labor market, and that deaf people are directed in those occupations for which they can not find an adequate work place. A long-term rehabilitation,

including the segment of professional training, realized on this ineffective way, puts deaf workers at a disadvantage in relation to their colleagues without hearing impairment, which are oriented and educated for a broader scope of professions, which will lead to a lower rate of employment and working at low paid jobs. The results indicate that it is necessary to reorganize the inefficient process of professional orientation of the deaf people, which should contribute to establishing an efficient system of employment in professions for which they are oriented.

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## ECONOMY AND PARA-FISCAL LEVIES IN BOSNIA AND HERZEGOVINA

Hasan Mahmutović<sup>1</sup>*Original scientific paper*

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**ABSTRACT**

*The system of para-fiscal levies implies different types of benefits or compensation and payment of citizens and companies for the use of goods or services of state administration which are para-fiscal sources of income of the state. The main characteristics of para-fiscal levies are: they do not originate from all tax payers, but only from members of certain social groups that are linked to some common economic or social interests; they are not part of the budget funds and not regulate them fiscal authorities; they have the character of destined public revenues, as they regularly represent a dedicated revenue whit which a specific task of economic or social character would be solved; they represent a secondary tax levy, which means that they exist along with the country's tax levy, to draw funds from the same economic resources and to have almost the same economic effects, as well as the collection of taxes; they shall be paid on the basis of laws and decisions or decision of the competent authorities (general obligation) or by contract (a specific levy, ie. an individual obligation); they shall be paid in the event of use of property of general interest and / or services of state administration; they represent giving of money, which is always direct, ie. giving cash on the basis of the decision and with the issuance of a receipt of payment (receipt from a box office or bank). Para-fiscal levies should be understood as fees that economic operators and citizens pay for the use of certain goods or services. These are not taxes and they do not serve to fill the budget. However, in Bosnia and Herzegovina the biggest part of para-fiscal levies is used as a parallel budget revenue, as revenue for the operation of the costly administrative apparatus. A large number of studies on para-fiscal levies in Bosnia and Herzegovina showed that they have a negative impact on economic growth and development. Basically para-fiscal levies, for business entities at higher levels of government, can be grouped into 25 fee and tax groups, and in 9 groups of special fees and membership fees (federal administrative fees, federal court fees, water fees, road fees, forest fees, environmental fees, fees for protection against natural and other disasters).*

**Keywords:** *economy, para-fiscal levies, law, Bosnia and Herzegovina*

**RESEARCH**

Entrepreneurs in Bosnia and Herzegovina have the largest burden, in comparison with countries of the European Union and with neighboring countries, and one of the key objectives of the Reform Agenda regarding improvement of the business environment in Bosnia and Herzegovina is to minimize the para-fiscal fees.

**FEES IN THE PUBLIC REVENUE SYSTEM**

Fees in financial theory imply to income which are money equivalents for services of public authorities or other public law authorities to citizens or legal persons. Unlike taxes, which represent the obligation of payment that the state collects by the force of its fiscal sovereignty, without a direct compensation, fees are compensations for the direct services that the state makes to the taxpayers. This service can be: freely chosen by the payer and imposed by regulations to taxpayers.

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The ways of charging fees can be direct and indirect. Direct collection of the fees occurs when the fee is paid in cash, with the issuance of receipts. Indirect taxes are collected in the case when purchasing court fees at authorized places, usually in the form of revenue stamps.

Fees are, usually, divided: according to authorities who prescribed fee obligation (central state bodies and close social and political communities), according to authorities who carry out certain services (administrative, customs, consular, cadastral, legal, judicial, clerical, etc.), according to the time of payment: fees which are paid in advance; fees which are paid retrograde, according to the number of executive services: arbitrary fees (for services that round up a entity) and individual fees and according to the purpose of spending: fees to cover social needs without determined purpose of spending the funds, fees for which the purpose is pre-determined.

There are other types of fees, for example: general and special, followed by constant and variable, and so on, administrative fees, court fees, communal fees, registration fees and local fees (Jelčić, 2001).

Income from all types of fees belongs to the budgets. Fees are government revenues in which the voluntariness is present, but, in many cases, it is relative voluntariness. For example, citizens have the choice whether they will register their vehicle or not, but, in any case, they will not be allowed to use non-registered vehicles.

Compulsion as an element while paying fees includes: an obligation to pay the fee and its amount is determined by a state authority, that some rights may be exercised only after the taxpayer initiate a proper process and that unpaid obligations (fees) will be collected forcibly

The amount of fees is determined by the estimated amount of costs that state authority has while carrying out required services.

The payers are citizens and legal persons who turn to the competent authority with a request to carry out some (abstract) services. The amount of fees depends on whether the provided service is of exclusive interest and is used only for the seeker of this service (payer of fees), or there is a general interest (interest of society) to perform the required service. If not only an individual is interested for the execution of certain services, but also a public authority, the amount of fees should be lower than effective expenses. Public interest sometimes can be so accented that the legisla-

ture provide a fully release of payment of fees.

The state in some cases determines the amount of fees on the basis of their negative attitude towards some form of activity so that, in this case, the amount of fees is formed beyond the actual costs. Thus, the fees for court proceedings are determined by the value of the dispute, by duration, by the number of acts and the like, and in an effort to discourage irrational conduct of court cases if there is a high probability that there is justification for conducting the process, which increases public expenditure which the judiciary is financed by.

There are a few principles (principles) that should be respected when introducing fees. The fee tariff, namely: should be general and not depend only on the type and size of services, should not be complicated and should include services of authorities in general

As the tax system, the fees system is based on respecting certain principles. These are: the principle of legality (whereby the charges can be imposed only by law or by adequate regulations), the principle of generality (the requirement that the charges, as well as taxes and other fiscal revenues, are determined for all in advance, rather than case by case), the principle of simplicity (the fee tariff is of a technical nature and should be simple, and to easily and accurately allow the payment of the prescribed fee), the principle of cumulating fees (this means that for the same file or action it is not possible nor allowed to charge a fee cumulatively by several public legal entities).

In the terminology of fee terms, significantly different terms are appearing from the terms of taxes: the subject of fees involves actions of a state authority for which fees are prescribed by law or a court decision, the payer of the fee is a citizen or legal person on whose behalf the requested action provided according to the fee tariff, that is, for whom actions were undertaken for whose conduct an obligation to pay fees is prescribed, the fee base is the value of the service which is used for calculating fees, the fee rate is a determined amount (expressed in percentage, fixed or arbitrarily) which the fee payer has to pay per base unit, fee tariff is a systematically arranged list of actions, descriptions of use, certain rights, services, objects and the like, for whose execution, or use, a fee is charged, fee liberations can be personal and concerned. Personal liberation are usually prescribed by social reasons (bad material position of the fee payer), and the fees system is a set of all fee forms that are in use in a specific country.

## LEGISLATIVE FRAMEWORK LOTTERY GAMES IN FEDERATION OF BOSNIA AND HERZEGOVINA AND ITS IMPLICATIONS TO CANTONS AND MUNICIPALITIES

### Law on lottery games

The Law on Lottery Games was adopted by the Parliamentary Assembly of the Federation of Bosnia and Herzegovina on 15.1.2002 (Official Gazette of F Bosnia and Herzegovina 10/02), and amendments were made on 8.7.2010 (Official Gazette 40/10). The content of this law which is the subject of research and analysis is given in the next section of the paper.

### General provisions

#### Article 1:

This law regulates: conditions, ways and entities of organizing lottery games, types of lottery games, basic principles of rules and allocation of revenue from lottery games, establishment, legal status, governance and management of the Lottery of Bosnia and Herzegovina, fees for organizing lottery games, penalties for violations and other issues of importance regarding lottery games.

#### Article 3:

Lottery games are divided into classical and special lottery games. Classic lottery games are games involving a larger number of participants with the intention to be the only winner or partial winners of the pre-defined fund, which are: Lottery: commodity, monetary, mixed, express lottery and instant lottery, Lotto, Keno and other variants of the game, Sports forecast-Toto, Slot machine games, TV Bingo and Bingo in an enclosed space.

Special lottery games are games where the individual himself opposes the organizers and expects a gain depending on the amount of their own wager and rules of the game, in which the fund is not predetermined, which are: casino games, slot machine games in special clubs and games with other devices with multiple roles and earnings (multiplayer), betting on various results and events and the like.

#### Article 6:

Lottery games from Article 3 of this law are organized on the basis of this law and approvals.

#### Article 7:

Special lottery games can be organized by: Lottery of Bosnia and Herzegovina under the conditions

provided by this law and the companies that are registered only for specific individual lottery games provided by this law on the basis of approvals.

#### Article 9, 10 and 11:

Various games are not considered as lottery games according to this law in which the player can gain profit, followed by so called pyramid games and lottery games via the internet and which are prohibited in the territory of Federation of Bosnia and Herzegovina.

### Lottery of Bosnia and Herzegovina

#### Article 19-21:

These are related exclusively to the Lottery Bosnia and Herzegovina as a limited liability company (Ltd.) with a particular interest for the Federation, whose status, authorities, method of work and other matters are regulated by this law in a special way in relation to other legal entities who organize lottery games. It is interesting that these provisions (amended Article 7 with new paragraphs 3,4,5,6,7 and 8) regulate in detail the allocation of resources of Lottery of Bosnia and Herzegovina (of which 50% belongs to the Federation of Bosnia and Herzegovina).

### Classical lottery games

#### Article 22-49:

They relate to the classical lottery games, game rules, conditions for organizing games, funds, payment of winnings and other (generally for all classical games), and then separately for each of the types of games described in Article 3 of this law which are Lotto (Article 33), Lotto-Keno and their other variants (Article 39-44), TV Bingo (Article 45) and Bingo in an enclosed space (Article 46- 49).

### Special lottery games

#### Article 50-55:

These Articles contain provisions on the obligation to making the rules of the game, provisions for funds, provisions for operating licenses and more. It is prescribed that slot machine games must be programmed to provide a minimum payout of 70% of the total wager over a period of three months (Article 53) and that the difference between the total daily deposits and withdrawals represents a gain or loss (Article 55).

**Article 56-68 (casino):**

These articles regulate in detail issues exclusively related to the games in casinos as a special type of lottery games.

**Article 71:**

These games are organized by commercial companies incorporated in the Federation of Bosnia and Herzegovina, with the approval of the Ministry, and which meet the following conditions: that it is registered for organizing these types of lottery games, that it is the owner of the slot machine, that an adequate space to accommodate at least 20 of slot machines is provided, and that it is not located near religious, historical and educational institutions and facilities, that rules for these lottery games are given, that the slot machine has a certificate that it is constructed and configured so to provide a profit of 70% of the total wager, which does not include in betting "higher-less", evidence of an authorized legal entity established on the open online network connected with the Tax Administration Central Office in Sarajevo (this condition is prescribed by amendments to the law, Official Gazette of Federation of Bosnia and Herzegovina 40 / 10.), in addition to the conditions from the previous paragraph the applicant is subjected to verification by the Ministry in terms of locations of the office building in which to put the slot machines, ownership over the machines as well as the legality and regularity of the trading records and behavior.

The solution for the issue of authorization is also the approval of the Ministry of the acts from paragraph 2 of this Article.

**Fees for lottery games****Article 86:**

The provisions of this Article have; in fact, the character of regulation which introduced the tax liability and establishes the tax scale, regardless of that it is referred to as compensation. This Article provides:

For issuing licenses for organizing lottery games, the approval of lottery game rules, the extension of license to organize lottery games and for opening new locations a compensation should be paid.

The fee from paragraph 1 of this Article is the revenue of Federation of Bosnia and Herzegovina, and is paid for:

**1. Permission for organizing games:**

- a) on slot machines in special clubs
  - permission to establish a club 50,000.00 KM
  - for 20 slot machines 20,000.00 KM
  - for every additional slot machine 500.00 KM
  - for extension of permission 10,000.00 KM
- b) in casinos
  - permission to establish a casino 500,000.00 KM
  - for approval of rules of one game 1,000.00 KM
  - for approval of rules of work of the casino 1,000.00 KM
  - for extension of permission 100,000.00 KM
- c) in betting shops
  - for work permission 50,000.00 KM
  - for approval of rules of one game 1,000.00 KM
  - for establishing of an additional location 10,000.00 KM
  - for extension of permission 10,000.00 KM
- d) Bingo in enclosed space
  - for permission to organize games 5,000.00 KM
  - for approval of rules of one game 500.00 KM
  - for extension of permission 1,000.00 KM

Without evidence of payment of compensation from paragraph 2 of this article, a permission may not be granted and it cannot start to work. Fees from paragraph 1 of this Article do not apply to the Lottery Bosnia and Herzegovina.

**Supervision****Article 87:**

Supervision over the implementation the provisions of this law are done by the Ministry of Finance.

The analysis of the Law on Lottery Games of the Federation of Bosnia and Herzegovina gives a basis for some general observations and conclusions, which are:

1. The adoption this law is based on the Constitution of the Federation of Bosnia and Herzegovina, the provisions of Article III.1. as amended in Amendment VIII, which determined exclusively jurisdiction to the Federation of Bosnia and Herzegovina. Paragraph d) of this article specifies that the Federation of Bosnia and Herzegovina has exclusively jurisdiction over: decisions concerning the regulation of finances and institutions of Federation of Bosnia and Herzegovina and the fiscal policy.

2. The Federal law on lottery games has the characteristics of a complete law as it regulates issues of organization and preparation of lottery games, especially classic games (Lottery etc.), and special games (on slot machines and in clubs), including the payment of the prescribed duties (fees) for equipment and activities.
3. It can be said that this law gave authorization to the authorities of Federation of Bosnia and Herzegovina of exclusive competence, so that there is not left any space for the adoption of a law on the same matter at lower levels of government, what the case would be if there was a shared jurisdiction between the Federation of Bosnia and Herzegovina and the cantons.
4. The law regulates one specific area with a number of special characteristics in terms of activities, equipment, entities (the organizers of games, etc.), so that normative solutions are adapted to these specific characteristics. By this the law can be considered as a special law (*lex specialist*) in relation to other laws of general nature (*lex generalis*). As such, the law on lottery games has a priority over other laws in case of conflict of jurisdiction, or validity of specific regulations.
5. In relation to the specific provisions of the law remarks can be placed regarding Chapter V, Article 86. - fees for organizing lottery games, with a focus on the provisions under Clause I.a) the second and third indent. These points determined the amount of fees for organizing lottery games on slot machines and in the special clubs with an amount of 20,000.00 KM for 20 slot machines (1,000.00 KM per device), and 500.00 KM for each additional slot machine. These obligations are paid annually and have permanent validity, which gives them the characteristic of taxes, but not fees as the law states. Fees are actually prescribed in the first and fourth indent of this article (50,000.00 KM and 10,000.00 KM), because they are being paid just once as the equivalent of a permission to start work and extension of its validity, and therefore are not questionable in this regard.
6. Regardless of whether it is a reimbursement or tax, it is a duty to pay by a business organization – organizer of lottery games, so we can ask the question if this is justified from the point of double taxation since these entities pay taxes for the profit generated by the same games and the same machines. In addition, on the same basis the same entities are obliged to pay property taxes (for slot machines) by cantonal regulations, and even communal fees (for organizing the games) by municipal regulations.

Obligations of subjects are the same and there is one actual basis for imposing duties, but the duties are described differently and differently enacted on many levels.

### **Communal fees**

#### **Legal origins of communal fees**

Fees are a form of revenue collection of the state that started to develop already in slavery and in feudal states. The obligation to pay in the present sense of the word is most closely associated with the development of public administration. Over time there has been a broadening of fee payment obligations and increase of their amount. However, by widening the circle of taxpayers, the number of tax forms, and in particular the tax burden in the total revenue of the state revenues collected by charging fees is becoming smaller and smaller.

Fees have a number of common elements with other financial instruments of revenue collection of the state. Thus they have similarities with taxes and contributions, but they also differentiate from these forms of state income. Fees are cash revenue of the state. Fees base their legal foundation on the following legal sources:

1. Law on Administrative Fees, published in the "Official Gazette of BiH", No. 5/95;
2. The law on court fees, published in the "Official Gazette of BiH", No. 5/95;
3. Law on Communal Fees, "Official Gazette of BiH" No. 7/97;

In our tax system, fees are treated as charges for certain services carried out by state authorities and authorized organizations and institutions, and belong to a system of income in Bosnia and Herzegovina. Classification of taxes in our system can be made according to different criteria, and the most used division is:

- by case which is subjected to fees (administrative, communal as a special administrative fee and court fees);
- by authority to introduce fees (each sociopolitical subdivision introduce their fees, municipalities are authorized to introduce administrative, judicial and communal fees, the cantons and higher authorities may impose administrative and court fees, and the state of Bosnia and Herzegovina for services of its jurisdiction can introduce administrative, consular, judicial, customs fees and fees on foreign cars);
- and by the way of collection (those who are paid in cash-direct payment and those charged with administrative fee stamps-indirect payment).

## Municipal regulations on communal fees

The performed analysis of municipal regulations on communal fees provides the basis for the following findings and conclusions:

- 1) It can be said that the responsibility of municipalities to adopt regulations on communal fees is indisputable because it is based primarily on the constitutions of cantons, and then on the constitution of the Federation of Bosnia and Herzegovina, and that the decisions taken by the competent authority, or municipal council as the legislative body of the municipality, are justified although the states in the preamble are inadequate.
- 2) However, whether these legislations in general or just in certain parts (provisions) are statutory or constitutional, presents a separate issue. According to the constitutional system and the applicable law, it is evident that the Federation of Bosnia and Herzegovina has exclusive competence by the federal constitution for certain issues in the field of taxes and other duties. In this section it is authorized to make laws and determine and implement fiscal policy. On this basis the Federation of Bosnia and Herzegovina, among other things, adopted the Law on lottery games which regulate this matter in detail, and prescribes payment of fees for the operation of companies whose activities are organizing lottery games. With this law, as it is evident, permanent charges for work with an annual amount according to the number of slot machines for lottery games are prescribed, with which this matter is exhausted, and the cantons, cities and municipalities do not have the basis for the fulfillment of the obligations of these legal entities. In addition, the law on lottery games is a special law only by this matter (*lex specialist*), and as such has an advantage over other general laws of the Federation of Bosnia and Herzegovina (*lex generalis*), especially under the laws of a lower level.
- 3) The fact that the courts have identical points of view supports this conclusion, both the regular and the constitutional court of the Federation of Bosnia and Herzegovina because they have convicted in specific cases on the grounds in this sense. With these verdicts some provisions of cantonal laws and municipal decisions were determined as unconstitutional.

## RESULTS

For the analysis of court cases related to communal fees 14 judgments of the Constitutional Court of Federation of Bosnia and Herzegovina were taken, and a larger number of judgments of the cantonal courts. Given the stated number of analyzed judgments, as well as a larger number of other judgments that have been published in the Official Gazette of Bosnia and Herzegovina, it could be said that the results of these activities are the case-law on the application of obligations for lottery games in cantons and municipalities. The cantonal judicial and constitutional judgments point out that the type of activity cannot be a relevant criterion for prescribing different amount of fees for a prominent company and label, and in the following municipalities: Zenica, Visoko, Zavidovići, Doboju Jug, Kakanj, Žepče, Ljubuški, Odžak, Domaljevac-Šamac, Banovići, Gračanica, Kiseljak, Novi Travnik, Gornji Vakuf-Uskoplje, Bugojno.

A group of organizers of lottery games, Premier World Sports doo Čitluk, Bet-Live doo Vitez, Pet plus doo Vitez, Sport plus doo Novi Travnik, Premier Sports doo Čitluk, Hartrick doo Vitez, Zmajevi doo Zenica has sent an objection to City Council of Zenica on 12.13.2016 on the Draft decision on amendments to the Decision on communal fees of City of Zenica.

The Constitutional Court of Federation of Bosnia and Herzegovina is already three times (2006., 2009., 2014.) declared the decision on communal fees of municipality of Zenica as unconstitutional, for the violation of the right for equality before the law, since the criteria for prescribing fees to highlight the label of company was based on the type of activity that the legal subject conducts. The activities of lottery games and betting shops are classified as legal persons and entrepreneurs for which a communal fee of 3,000.00 KM is determined, which is the rough way of discriminating the respective activities.

The proposed draft of amendments to the Decision on communal fees, it is not aligned with the Constitution of the Federation of Bosnia and Herzegovina, but the discrimination is taken to the next level with the proposal that fee would be 50,000.00 KM. Adopting the Draft decision, a crime is committed under article 241 of the Criminal Law of the Federation of Bosnia and Herzegovina, which is violation of equality in the exercise of economic activity.

It is essential to eliminate the criterion of company activity from the decision for determining the company fee.

## CONCLUSION

From the above it can be concluded that it is necessary to work on improving laws and bylaws in this whole industry, but first the special law on lottery games, in order to allow normal operation of the organizers of lottery games, but also the legal collection of fiscal income.

It is quite clear that the constitutional framework and international conventions and standards are the basis for legislation, with understandable respect for science and profession in this field.

The analyzed cases indicate that the amount of taxes provides the basis for the conclusion of an unbearable fiscal burden because the amount of obligations threatens the very substance of fixed (permanent) as-

sets that generate income in the relevant industry.

All this indicates that the current legal framework hinders normal operations of business organizations, concerned industry, more than they contribute.

Such situation cannot be qualified as justified from a social and economic point of view, or that it is constitutional and legitimate and lawful, which inevitably leads to the changing of the status of the general-interest and social interest of each of the concerned entities.

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