

Petkovski, Aleksandar; Damoska, Jovanka

Article

Examining the software piracy problem through the case of the Macedonian economy

UTMS Journal of Economics

Provided in Cooperation with:

University of Tourism and Management, Skopje

Suggested Citation: Petkovski, Aleksandar; Damoska, Jovanka (2021) : Examining the software piracy problem through the case of the Macedonian economy, UTMS Journal of Economics, ISSN 1857-6982, University of Tourism and Management, Skopje, Vol. 12, Iss. 2, pp. 211-224

This Version is available at:

<https://hdl.handle.net/10419/281903>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Preliminary communication
(accepted February 23, 2021)

EXAMINING THE SOFTWARE PIRACY PROBLEM THROUGH THE CASE OF THE MACEDONIAN ECONOMY

Aleksandar Petkovski¹
Jovanka Damoska Sekuloska

Abstract

There is an ongoing conflict between software copyright owners and a vast majority of users who are continually finding ways to use the software without paying. The paper investigates the attitudes of the users towards application of licensed or unlicensed software. Through in-depth analysis of the focus group of software users on one hand and the official authorities responsible for implementation of copyrights regulation the paper identifies the reasons behind the actual situation of software using in the Macedonian economy. The officials do not invest any serious effort in the implementation of the copyrights protection legislation. The main arguments of the users, for opting to use unlicensed software, are the low purchasing power of people in Macedonian economy and the high software prices. The actual situation is unsustainable from legal, ethical, and economic aspects. A possible way out of this situation would entail software producers adjusting the prices of their products to the average purchase power of the Macedonian citizens, and the state should stop tolerating software piracy and display consistency in the implementation of copyright protection legislation.

Key words: licensed software, unlicensed software, copyright, purchasing power, legislation

JEL Classification: O340, K420, E310, E010

INTRODUCTION

The use of illegally obtained (pirated) software is a worldwide phenomenon. Analysis reveals that 37% of the software installed on personal computers worldwide is unlicensed, and its commercial value is estimated at 46.3 billion USD (Reverera Blog, 2018). The use of pirated software is also a widespread phenomenon in the Macedonian economy. According to the Report of Business Software Alliance (BSA, 2018) the rate of unlicensed software installation in Macedonian economy is 63% and its commercial value reaching 15 mill. USD. Both public and private legal persons, as well as common citizens, are using it on their personal computers, mobile phones, and other ICT devices.

¹ **Aleksandar Petkovski**, PhD., Assistant Professor, Faculty of Social Sciences, University Mother Teresa, Skopje, Macedonia; **Jovanka Damoska Sekuloska**, PhD., Faculty for Computer Science and Engineering, University of Information Science and Technology “St. Paul the Apostle” Ohrid, Republic of North Macedonia

From a perspective of economic sustainability, the widespread use of illegal software is not regular and should be stopped. At the same time, many citizens and companies who succumb to using unlicensed software are justifying their actions by arguing that either low income or high prices for purchasing software are holding them back from abiding by the legislation for the protection of the commercial rights of the authors.

We have looked into the work of several researchers who tend to report that income inequality and unbalanced wealth distribution result in high rates of use of illegal software. The author Bryan W. Husted (2000) reported that the share of income held by the top 10% had a negative and significant effect on piracy rates. Antonio Rodriguez Andres (2006) in his research on “Software piracy and income inequality” involving 35 countries worldwide found out that countries with higher percentages of income inequality exercised high rates of pirated software using. BSA reports reveal that developing countries exercise much higher piracy rates. The author of the study “Software piracy, inequality and the poor: evidence from Africa” (Asongu, 2014) found a direct relationship between poverty and the use of pirated software, also suggesting that software piracy is good for the poor as it has a positive income-redistributive effect. He has also noticed that developing countries practice the highest piracy rates because the users are not capable to pay for the software.

On the other hand, Antonio Rodriguez Andres (2006) reported that higher levels of judicial efficiency are associated with lower software piracy rates. Suggesting that functional anti-piracy legislation and effective mechanisms for implementation are also playing a significant role in confining the use of illegal software. Bearing in mind the findings suggesting that income inequality and unbalanced wealth distribution result in high rates of illegal software using, we have carried out a research aiming at revealing the viewpoints and the practices of a group of students concerning the use of illegal software. Additionally, we have looked into the existing legal framework and practice in fighting and sanctioning the use of illegal software in the Macedonian economy. Finally, we compared the pricing of popular software in different countries and explored the idea of adjusting the prices for selling the software to meet the purchasing power of the citizens of a certain country.

1. METHODOLOGY

In order to get insight of what causes software piracy we have made quantitative and qualitative research. The methodology used for gathering the data consisted of carrying out structured and semi-structured interviews, as well as reviewing selected legislative acts and court rulings. Applying the convenience sampling method for selection of the respondents (Robson & McCartan, 2016, p. 280) 30 student from the Faculty of Social Sciences at Mother Theresa University (MTU) in Skopje, and 22 students from the University of Information Science and Technology (UIST) “St. Paul the Apostle” in Ohrid, were interviewed using a structured questionnaire (Robson & McCartan, 2016, p. 290). The questionnaire consisted of a group of demographic questions² and a group of substantial questions (Table 1). The later directed at revealing respondents’ practice on the use of pirated software, the reasons for using pirated software, the most commonly used software packages, the most common channels for acquisition of pirated software,

² Name, gender, age, ethnicity, employment status and household annual average income.

familiarity with and inclination toward using free software as an alternative, the legal consequences of the use of pirated software, and whether they would be willing to pay for using legal software should the average income rates in Macedonian economy approximate those of the EU countries.

The method of thematic or framework analysis (Lacey & Luff, 2001), was used for analyzing the data gathered through semi-structured interviews and legislative acts.

Table 1. Respondents' demographics

University	MTU	UIST
Gender		
<i>Male</i>	15	12
<i>Female</i>	15	10
Ethnicity		
<i>Macedonian</i>	0	17
<i>Albanian</i>	30	5
Respondents' average age	21.3	20.6
Respondents employment status		
<i>Employed</i>	8	0
<i>Unemployed</i>	22	22
Respondents' average annual income per household	10,198 €	5,853 €

Source: Results of the survey conducted by the authors

The authors also examined the actions of relevant state institutions bearing responsibility for stopping and sanctioning software piracy such as The State Market Inspectorate, The State Office of Industrial Property, and the archive of the Basic Criminal Court in Skopje.

2. FINDINGS

The findings are presented in two subsections. The results from the interviews with the students are presented in the first subsection, while the findings related to analyzing legislation, court rulings and other data obtained through carrying out interviews and using other sources will be presented in the second subsection.

2.1. Findings from the interviews with the students

The first question for the students who participated in the survey was, “Whether they use licensed or pirated software on their computers and other electronic devices” (Figure 1). The answers revealed that most of the respondents from MTU did not comprehend the difference between licensed and pirated software. Therefore, they have answered the first question once we have offered them a thorough explanation on the difference between the use of legal and illegal software.

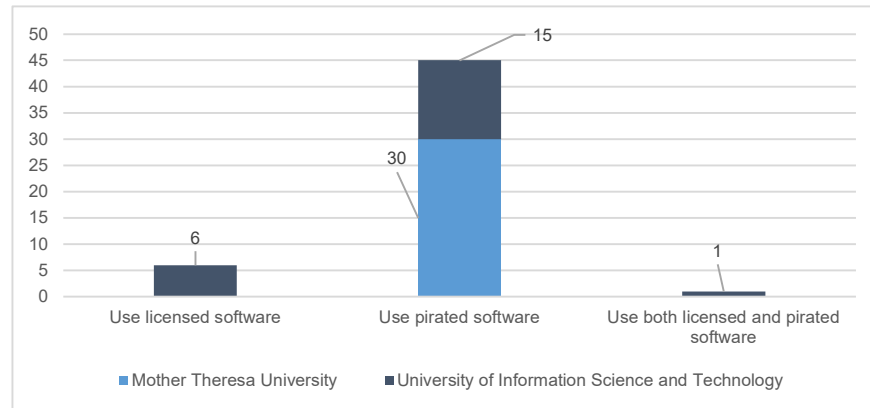


Figure 1. Results of students' responses to the question "Whether they use licensed or pirated software on their computers and other IC devices"

The second question focused on revealing the reasons for the use of pirated software, i.e. 'Why do you opt for installing and using pirated software'. All 46 respondents' who have previously answered that they are using pirated software, almost unanimously have replied that the high software prices were the main reasons behind their choice of using unlicensed software. Several students from UIST gave additional comments, explaining their motives behind decision to use illegal software. One of the responders have pointed out that using licensed software was better because it does not have bugs and because by purchasing the product one contributes to financing the software developers who produced the software in question. Other is of opinion that using unlicensed software for educational purposes should be tolerated. The third respondent was complaining that most of the software selling companies have shifted their business model from a single payment (when purchasing) to multiple monthly or annual based payments for the whole period of using the product. Resulting in an increase of the costs for using the product in the middle range (2-3 years). Nevertheless, all three aforementioned respondents stuck to the argument that the prices for purchasing legal software are exceeding their financial capacities.

The third question was designed to provide information on "Whether the respondents were ready to purchase legal software and what would be the cost they were ready to pay for using the software" (Figure 2).

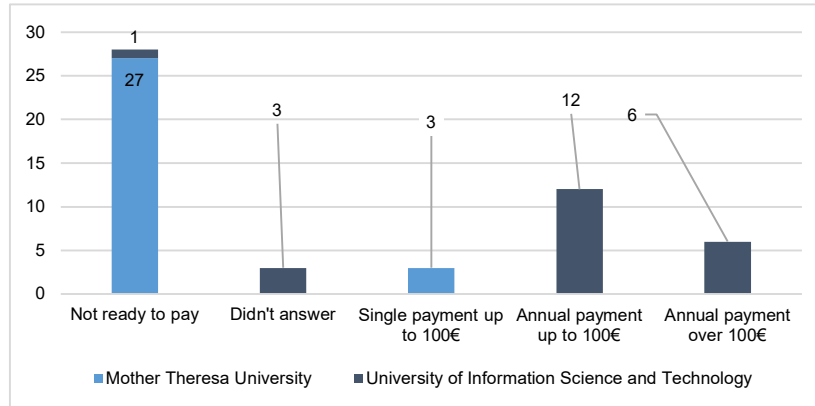


Figure 2. Results of students' responses to the question "Whether they are ready to pay for purchasing licensed software"

An overwhelming majority of respondents from the MTU declared that they were not ready to pay for purchasing licensed software. On the other hand, an overwhelming majority of respondents from the UIST expressed readiness to pay for purchasing licensed software. Most of the respondents from UIST commented that by paying for the purchase of software the users are essentially helping for provision of income for the software developers.

Pertaining to the question "What software would you purchase and how much are you willing to pay for it", presents the most preferable software and the average annual cost the respondents' are ready to bear for using it (Table 2).

Table 2. Some of the respondents' preferable software and how much they are ready to pay per annum for using the software

Software type	Number of respondents	Average annual price the respondents are ready to pay (EUR)
MS Office	8	51
Photoshop	6	130
Adobe Illustrator	3	140
Microsoft 365	3	63
Adobe Creative Suite	2	130
Adobe Dreamweaver	1	239
Sony Vegas Pro	1	300
Auto CAD	1	300
Adobe Aftereffects	1	239
Adobe Stock	1	360
G Suite	1	80

Source: Results of the survey on the use of illegal software among students conducted by the authors

The answers reveal that the software intended for the general use of the wider users is most preferred and the higher demand for that type of software in the market leads the users are willing to pay a lower price. On the other hand, more IT professional software is preferred by the IT professionals, who are ready to pay more for these types of

software. In addition to the software presented in Table 2 at least one of the respondents expressed willingness to pay for using one or more entertainment platforms such as Netflix, Disney+, or some of the gaming platforms, not exceeding the price of 50 euros per year.

The next question (Figure 3), “What unlicensed software do you use most often”, was directed to the respondents who declared that they were using unlicensed software.

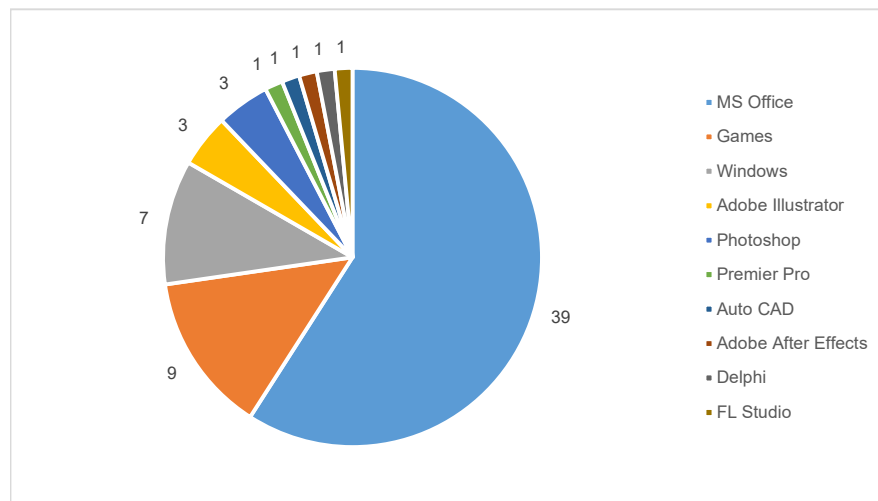


Figure 3. Results of the students' responses to the question “What unlicensed software do you use most often”

All respondents from MTU and nine from UIST have declared that they use unlicensed copies of Microsoft Office. Nine respondents from UIST have declared using unlicensed games, while 7 respondents have been using unlicensed copies of Microsoft Windows.

Next, we have asked the students “If they were familiar with the Open Office and whether they would be willing to use it as an alternative to the Microsoft Office”. All 30 respondents from MTU said that they were not familiar with this software. On the contrary, all 22 respondents from UIST declared they were familiar with Open Office. Consequently, respondents from MTU were not willing to use Open Office as an alternative; while 16 respondents from UIST declared, they were willing to use Open Office as an alternative to Microsoft Office. The five respondents from UIST who declared that they were not ready to use Open Office, commented that Microsoft Office is much more stable software and is regularly updated and maintained, while Open Office has glitches and is much less reliable. In general, they are saying that Open Office needs improvements and still cannot be considered as a worthwhile alternative to Microsoft Office.

Regarding the question “How or where do you get the illegal software from”, 43 respondents replied that they have downloaded illegal software from the Internet. Three respondents declared that they have acquired illegal software from salesmen who were advertising their services on the internet. With regards to the commonly used websites

for downloading illegal software, most respondents referred to “zamunda.net” and “the Pirate Bay”.

Next, we have asked the students “Whether they were aware that they were breaking the law when using unlicensed software, and whether they were afraid of legal sanctions for using unlicensed software” (Figure 4)

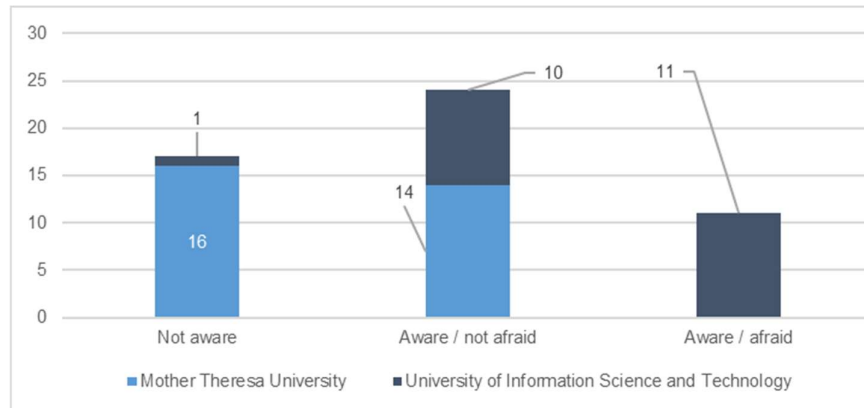


Figure 4. Results of students' responses to the question “Whether they were aware that they were breaking the law when using unlicensed software, and whether they were afraid of legal sanctions for using unlicensed software”

More than half of respondents from MTU declared that they were not aware that they were using illegal software. The remaining respondents declared they were aware but not afraid of any eventual legal sanctions for using unlicensed software. On the other hand, almost all (but one) of the respondents from UIST declared they were aware that they were breaking the law by using unlicensed software. Where half of the respondents stated they were afraid of suffering possible legal sanctions for using illegal software.

The final question from the survey was designed to ask the students “Whether they would be willing to purchase licensed software, should their income match the average income of citizens from developed European countries?” In other words, if the family and the students have an average income similar those from Germany, would they be willing to legally purchase the software they are using on their computers and other mobile devices? Thirty-three out of the total number of 52 students have responded they would be willing to pay for purchasing licensed software should their income match the income of the Europeans. Yet 18 students have expressed unwillingness to pay for purchasing software even if their income becomes equal to one of the EU citizens. Should we display the answers from the perspective of each of the two universities, the majority of students (18) from UIST declared willingness to pay for purchasing legal software should their incomes rise to match those of the citizens of developed European countries. Only 3 students from UIST declared they would not pay for using licensed software even if their income would improve, while 3 other students did not answer. On the other hand, half of the students (15) from MTU have declared willingness to pay for purchasing legal software should their incomes rise to match those of the citizens of developed European

countries, while the other half (15) have declared they would not pay for using licensed software even if their income improved.

2.2. Findings from the analysis of the legislation and practice on fighting piracy

The legal framework for the protection of industrial property rights, especially concerning software products registered as patents or trademarks under provisions of the national legislation, comes down to the provisions of the Criminal Code and the Law on Industrial Property. The penalty for breaching the ownership rights through unauthorized use or selling of software products is set to imprisonment sentence in duration between six months to three years (Criminal Code of Republic of Macedonia, 2014, § 157). If the offender had gained “sizable profit”³ as a result of the unauthorized selling, the duration of the imprisonment sentence extends to a minimum of one and a maximum of five years (Ibid.). The Office of the Public Prosecutor is responsible for initiating proceedings against suspected offenders of the Criminal Code. Also, with the Law on Industrial Property, the State Market Inspectorate is authorized to fight the unauthorized use or selling of software products by issuing orders for confiscation and filing misdemeanor charges against the perpetrator (Law on Industrial Property, 2009, § 318-320).

Intending to investigate the frequency and the content of cases scrutinized by the Primary Criminal Court Skopje 1 in the period from 2010 to May 2020 concerning violation of industrial property rights, we have analyzed 28 cases processed according to the provisions of the Criminal Code and 11 cases processed according to the provisions of the Law on Industrial Property. In only 2 out of 28 cases, the subject of the court proceedings was the alleged violation of article 157 of the Criminal Code. In both cases, the local office of Microsoft Corporation had alerted the Office of the Public Prosecutor on the unauthorized use of software packages owned by Microsoft. In the first case *State vs Set Computers* (2012), the Court found the company “Set Computers” guilty for unauthorized installing and selling of Windows operating system in personal computers intended for sale. Set Computers was fined with 100 000 MKD⁴ and 5 computers containing unlicensed software were confiscated. In the second case *State vs Gera Kom Plus* (2013) the company “Gera Kom Plus” was also fined 100 000 MKD for unauthorized installing and selling of Windows. Six computers were confiscated and the director of the company was sentenced to 6 months’ imprisonment. In addition, the company Gera Kom Plus was ordered to pay 52 000 MKD to Microsoft as compensation for the use of unlicensed software on the six company computers.

In the aforementioned period from 2010 to May 2020, misdemeanor section of the Primary Criminal Court Skopje 1 processed 11 cases for alleged violation of the industrial property rights protected under the Law on Industrial Property (2009). In only one of those 11 cases the State Market Inspectorate raised charges against “Zeus LLC” from Skopje for unauthorized selling of PlayStation consoles and videogames (*State Market Inspectorate vs Zeus LLC*, 2013). The court found the legal representative of Zeus LLC guilty and issued him an order to stop this illegal activity, warning him that

³ Sizable profit – is defined as any financial gain larger than the amount of 50 average monthly salaries.

⁴ 100 000 MKD is equivalent to approximately 1600 euros at approximate exchange rate of 61 MKD for 1 euro.

he will be penalized severely should he continue performing the illegal practice in question.

With the Law on Industrial Property (2009) along authorizations of the State Market Inspectorate, the State Office of Industrial Property is also authorized on taking measures for protection of the industrial property rights (Law on Industrial Property, 2009, § 19). The practice had showed that the State Office of Industrial Property does not exercise its authority on taking measures for protection of the industrial property rights, but rather leaves it under the authority of the State Market Inspectorate (Gerasimovski, 2020)⁵.

In an interview with an official (Temovska, 2020) from the State Market Inspectorate, we have found out that several state institutions dealing with protection of the rights from industrial property have formed an informal Coordinative Body comprised of representatives from the Customs Office, the Office of the Public Prosecutor, the Court, the State Market Inspectorate, and the State Office of Industrial Property.

The idea behind the establishment of the Coordinative Body is increasing the efficiency in protecting the rights from industrial property, but the Deputy Director of the State Office of Industrial Property said that the Coordinative Body does not have any concrete activities (Gerasimovski, 2020).

2.3. Findings from the inquiry of the possibility for adjusting the software prices to meet the purchasing power of the citizens of a certain country

Taking into consideration that most of the students have pointed out low income as the main reason behind using of illegal and not purchasing licensed software, and as well their readiness to buy licensed software should the product prices correspond to the purchasing power, we have made a small enquiry in three different European countries of the real GDP per capita and the cost for purchasing permanent license for use of one of the most popular software packages of Microsoft Corporation “Office Home & Business 2019”. The value of the Real GDP per capita in Germany for 2019 was 35,840 euros, the same value for the same year in Bulgaria was 6,840 euros (Eurostat, 2020). The value of the Real GDP per capita in the Macedonian economy in 2019 was 6,093 dollars, equivalent to 5,152 euros (World Bank, 2020). The price of one time license purchase for Microsoft Office Home & Business in Germany is 299 euros⁶, in Bulgaria 590 Bulgarian levs⁷ (equivalent to 301 euro), and in Macedonian economy 14000 MKD⁸ (equivalent to 227 euro). We have talked to the Regional Representative of the Microsoft Corporation Mr. Agim Vetraj, and after introducing him with the results of the students’ interview, we have conveyed their suggestion that the prices of software should correspond to the average purchasing power of the population of a certain country. Mr. Vetraj (2020) replied that Microsoft Corporation is offering discount packages for students and teachers but does

⁵ Interview with Goran Gerasimovski – Deputy Director of the State Office for Industrial Property.

⁶ Source, the Official website of Microsoft in Germany <https://www.microsoft.com/de-at/microsoft-365/buy/microsoft-365>

⁷ Source, the Official website of Microsoft in Bulgaria https://www.microsoft.com/bg-bg/microsoft-365/p/office-home-business-2019/cfq7tc0k7cq?cid=msft_web_collection&activetab=pivot%3aoverviewtab

⁸ Source, the Official website of Microsoft in Macedonia <https://www.microsoft.com/en-mk/microsoft-365/p/office-home-business-2019/cfq7tc0k7cq>

not have an existing policy on forming the prices for its products according to the average purchase power of the population.

We have also contacted the Adobe Corporation, trying to elicit an answer on whether they were thinking about forming the prices of their products taking into consideration the average purchase power of the population, but unfortunately, we didn't receive a reply.

Unlike the Microsoft Corporations "one price for all markets policy", we have found a case where an online videogames selling platform "Steam DB" was selling their products at different prices. Thus, the price for purchasing the videogame "Rust" in Argentina was only 3 euros, while for purchasing the same videogame in the countries of the Eurozone, one will need to pay 23 euros (SteamDB, 2020).

3. RESULTS AND DISCUSSION

The average annual household income, declared by the interviewed students is 8,026 euros. Which is 55,7% higher than the value of the Real GDP per capita in Macedonian economy for 2019 (World Bank, 2020). Thus, this group of students is a credible representative of the vast majority of the average households in Macedonian economy whose annual income is within the range of around 10,000 euros. 88,4% of the interviewed students, declared that they were using unlicensed software (see Figure 1), and almost all of them stated that they were using unlicensed software because prices for purchase of legal software were too high. And indeed, the comparison of the ratio between the real GDP per capita in 2019 and the price for purchasing one of the most popular software packages of Microsoft Corporation "Office Home & Business 2019" in Germany and Macedonia reveals that in Germany one needs to spend only 0,8% of the real GDP to purchase the software in question, while in Macedonian economy needs 4,4% of real GDP.

In accordance with their previous statement that unaffordable software prices were the main reason for obtaining and using unlicensed software, 59,6% of the students declared that they are not willing to pay any money for purchase of software and that they will continue to use illegal software as long as they could (see Figure 2). On the other hand, 34,6% of the students from UIST declared that they are willing to pay for one time purchase or make an annual payment for using software, but the total amount they are ready to spend per year should not exceed 100 euros. Taking into consideration that many of the interviewed students from UIST will work and earn their living as software developers, it is encouraging that they embrace the principle that their occupation as software developers should be supported through paying the price for purchasing official software. In the same time, they are also confirming the fact that the purchasing power of the Macedonian citizens is limited and cannot meet the needs of IT students for obtaining the needed software.

Microsoft Office is by far the most popular software package among the students, where 75% of the interviewed students have declared that they are using illegal copies of this software (see Figure 3).

None of the students from MTU is familiar to the Open Office, as a freeware alternative to MS Office, while majority of respondents from UIST declared they were willing to use Open Office as substitution for MS Office. However, few of the respondents from UIST pointed out that Open Office is inferior in quality, in comparison to MS Office. Only 21% of the respondents declared that they were both, aware that they

were breaking the law when using illegal software and afraid from suffering consequences for the misdeed. Strangely, more than half of the respondents from MTU declared that they were not aware they were breaking the law by using illegal software, while the rest of the respondents declared they were not afraid of any sanctions (see Figure 4).

We found it highly encouraging that 63% of the respondents declared they were willing to pay for purchase of legal software should the average income of citizens in Macedonian economy rise to match those of the citizens of developed European countries.

The legal framework for protection of industrial property rights is more than sufficient. The problem lies in its implementation. The difference between laws on the books and how they are carried out in practice is also known as “the implementation gap” (Nadgrodkiewicz et al., 2012), and Macedonian economy is a classic case of embodiment of this theoretical phenomenon. The fact that only three court proceedings for the last 10 years on the territory of Primary Criminal Court Skopje 1 have taken place against companies that were selling illegal copies of the software, declares volumes in favor of the tacit agreement for ignoring the obvious practice of abusing the rights of the legal software owners. This conclusion was also confirmed with the statement of the Deputy Director of the State Office for Industrial Property, by asserting that the Coordinative Body comprised of representatives from state institutions responsible for protecting industrial property rights is practically dysfunctional (Gerasimovski, 2020). The effects of the mild approach on sanctioning cases of breaching industrial property rights are visible in the responses of the interviewed students, where only 11 out of 52 students have declared that they are afraid of being penalized for using illegal software.

The main excuse of the interviewed students for using unlicensed software is the high selling prices. This result confirms the findings of Simplicie Asongu (2014), on the existence of the direct relationship between poverty and the use of unlicensed software. Although the results of our research have revealed a huge discrepancy between the average purchase power in Germany, Bulgaria, and Macedonian economy, the price for purchasing one of the most popular software packages of Microsoft Corporation “Office Home & Business 2019” does not seem to follow this disparity. On the contrary, the price for purchasing “Office Home & Business 2019” in these three countries is almost even. The Regional Representative of the Microsoft Corporation confirmed that Microsoft does not have a policy of taking into consideration the average purchase power of a certain country when defining the prices for their products (Vetraj, 2020).

Finally, the whole issue of the sustainability of protection of legal rights of software developers seems to be hovering somewhere between the legally binding aspects of applying the law and the ethical dilemma on what should be the optimal software price that will stimulate users in Macedonian economy to purchase legal software and avoid illegal or pirate practices, under the pretext that the software is too expensive.

It seems that the major step toward reconciling the protection of the authorship rights and the use of legal software should be the adjustment of software prices to the average purchasing power of the population in the Macedonian economy. This step should be followed by the decisive action of all state institutions on combating piracy through punishing those who continue the practice of using or selling illegal software.

RECOMMENDATION AND CONCLUSIONS

One of the oldest legal principles is the principle of respecting the valid legal provisions⁹. From all of the above said, it is clear that neither the authorities nor the citizens in the Macedonian economy care sufficiently for respecting the provisions for the copyrights protection of the owners of some of the most widely utilized software packages. Should we take into account that Macedonian economy is firmly determined to join the European Union, it is more than clear that it should strive to put an end to the malevolent practice of massive and unsanctioned infringement of the copyrights?

As with many other similar situations of occurrence of “the implementation gap” (Nadgrodkiewicz et al., 2012), the political will for the implementation of certain legislation seems to be playing a decisive role concerning its implementation.

The Parliament is the highest legislative authority and is entrusted with monitoring and supervising the Government and other holders of the public office responsible to the Parliament (Constitution of Republic of Macedonia, 1991). Hence, organizing an oversight hearing on the consistency of the implementation of the copyrights legislation, under the auspices of the Legislative Committee at the Macedonian Parliament, would be a logical starting point (Law on the Assembly of the Republic of Macedonia, 2009). All the relevant stakeholders should take active participation at the hearing. Starting with the institutions responsible for enactment and enforcement of the copyright legislation, the representatives from the software development companies, and representatives of students and other common users.

The hearing should focus on inviting software producers to adjust the prices of their products to the average purchase power of the population. Should software producers accept this suggestion, the state should do its best to secure full implementation of the copyright legislation.

On the other hand, should software producers retain the existing pricing policies, the state should seriously consider building an alternative strategy, based on utilizing open source software for wider use throughout all public institutions.

Whatever the outcome might be, the state must do much more on securing full implementation of the copyright legislation. Because no matter what excuses we will use for justification of our actions, we have to admit that at present in the Macedonian economy we have a situation of massive violation of copyright laws through unauthorized use of some of the most popular software packages.

We are aware that one legislative hearing will not solve all the problems, but we are sure that this is a good start on scrutinizing the issue of protection of software developers' copyrights. Legislative hearings usually end up with a list of conclusions and tasks that are to be followed up. Using the mechanisms of the Parliament for oversight and controlling the work of the executive authorities, the suggested legislative hiring provides enough power in the hands of the Legislative Committee, to steer up and task the executive authorities with a concrete roadmap of activities that need to be carried out. At a certain point forward in time, the Legislative Committee will revisit the implementation of the roadmap and follow up with adequate actions, seeking a consistent implementation of its decisions.

⁹ Or “pacta sunt servanda” in Latin.

REFERENCES

- Andres, R. Antonio. 2006. Software piracy and income inequality, *Applied Economics Letters*, [Online] 13(2), pp. 101-105. Available at: <https://www.tandfonline.com/doi/full/10.1080/13504850500390374> [Accessed 25.06.2020].
- Asongu, A. Simplice. 2014. Software piracy, inequality and the poor: evidence from Africa, *Journal of Economic Studies*, [Online] Vol. 41 No. 4, pp. 526-553. Available at: <https://doi.org/10.1108/JES-10-2012-0141>
- Business Software Alliance (BSA) (2018) Global Software Survey: Software management: Security Imperative, Business Opportunity, [Online] Available at: https://gss.bsa.org/wp-content/uploads/2018/05/2018_BSA_GSS_Report_en.pdf
- Constitution of Republic of Macedonia. 1991. Official web page of the Parliament of the Republic of North Macedonia. [Online] Available at: <https://sobranie.mk/content/Odluki%20USTAV/UstavSRSM.pdf> [Accessed on 20.10.2020].
- Criminal Code of Republic of Macedonia. 2014. [Online] Available at: <https://www.pravdiko.mk/wp-content/uploads/2013/11/Krivichen-zakonik-integralen-prechisten-tekst.pdf> [Accessed 9.10.2020].
- Gerassimovski Goran. 2020. Interview on the role of the State Office of Industrial Property in protection of the industrial property rights. [Interview, 02 July 2020].
- Vetraj Agim. 2020. Interview on the possibility of defining selling prices for the Microsoft software packages based on the average purchase power of the population. [Interview, 02 October 2020]
- Hancock, Beverly. 2002. Trent focus for research and development in primary health care: an introduction to qualitative research. Leicester: Trent Focus.
- Husted, W. Bryan. 2000. The impact of national culture on software piracy, *Journal of Business Ethics*, [Online] 26(3), pp. 197-211. Available at: <https://www.jstor.org/stable/25074340?origin=JSTOR-pdf&seq=1> [Accessed 25.06.2020].
- Lacey, Anne. Luff, Donna. 2001. Trent focus for research and development in primary health care: an introduction to qualitative analysis. Leicester: Trent Focus.
- Law on the Assembly of the Republic of Macedonia. 2009. [Online] Available at: <https://www.sobranie.mk/law-on-the-assembly-of-rm.nspk> [Accessed 25.10.2020].
- Law on Industrial Property, 2009. [Online] Available at: <http://www.ippo.gov.mk/docs/xFiles/articles/LAW%20ON%20INDUSTRIAL%20PROPERTY/LAW%20ON%20INDUSTRIAL%20PROPERTY.pdf> [Accessed 9.10.2020].
- Nadgrodskiewicz, A. Nakagaki, M. & Tomicic, M. 2012. Improving Public Governance: Closing the Implementation Gap Between Law and Practice, Center for International Private Enterprise and Global Integrity. [Online] Available at: https://www.cipe.org/legacy/publication-docs/GI%20CIPE_Implementation%20Gap_for%20web.pdf [Accessed 25.10.2020].

- Republic of Macedonia v Set Computers. 2012. Primary Criminal Court Skopje 1, K-784/10, 30.01.2012.
[Online] Available at:
http://www.sud.mk/wps/portal/osskopje1/sud/odluki!/ut/p/z1/jZBPT8JAEMU_i4deO4P0z-Jt0VKFFqLY2O7FFFyWNdtusyz061vExJhAcW4z-... [Accessed 25.09.2020].
- Eurostat. 2020. Real GDP per capita for the countries of the European Union. [Online] Available at:
https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=sdg_08_10&plugin=1
[Accessed 20.10.2020].
- World Bank. 2020. GDP per capita – North Macedonia. [Online] Available at:
<https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=MK>
[Accessed 26.10.2020].
- Republic of Macedonia v Gera Kom Plus. 2013. Primary Criminal Court Skopje 1, K-1145/10, 10.09.2013.
[Online] Available at:
http://www.sud.mk/wps/portal/osskopje1/sud/odluki!/ut/p/z1/jZBPT8JAEMU_i4deO4P0z-Jt0VKFFqLY2O7FFFyWNdtusyz061vExJhAcW4z-... [Accessed 25.09.2020].
- Reverera Blog, 2018. 2018 Revulytics Software Piracy Statistics and Thoughts on the BSA Global Software Survey. [Online] Available at:
<https://www.reverera.com/blog/software-monetization/2018/06/2018-revulytics-software-piracy-statistics/>
[Accessed 25.06.2020].
- Robson, C., McCartan, K. 2016. Real world research — Fourth Edition. Chichester: John Wiley & Sons Ltd.
- State Market Inspectorate v Zeus LLC. 2013. Primary Criminal Court Skopje 1, IIPK 1074/13-0, 13.11.2013.
- SteamDB. 2020. Prices for purchase of the videogame “Rust”. [Online] Available at:
<https://steamdb.info/app/252490/>
[Accessed 25.11.2020].
- Temovska Tina. 2020. Interview on the role of the State Market Inspectorate in protection of the industrial property rights. [Interview, 20 July 2020].