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# DO UNIVERSITIES PROVIDE APPROPRIATE KNOWLEDGE OF PUBLIC SECTOR ACCOUNTING? THE CASE OF SLOVENIA, BOSNIA AND HERZEGOVINA, AND CROATIA

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## Abstract

After several decades of developing the role of accounting in the public sector as a technical tool, there are some new perspectives emphasising the potential of accounting in a broader socio-political context. Nowadays, public sector organisations, especially universities and other educational institutions, must follow the principles of good governance and be accountable to a variety of stakeholders. The modest amount of previous research, especially for the Eastern European countries, was the motivation to investigate the topics and competencies in the undergraduate and postgraduate public higher education programmes in Slovenia, Bosnia and Herzegovina and Croatia on the one hand, and to assess the perception of the knowledge of accountants acquired in formal higher education on the other. The results show that in all three countries there are only a small number of study programmes, especially in undergraduate programmes, while accountants on average perceive their knowledge acquired at university as insufficient for their work.

## Key Words

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Public sector accountants; study programmes; knowledge of public sector accountants; accounting reforms.

## INTRODUCTION

Given that investment in education is essential for development, it is also true that the form of this investment is of critical importance in addressing the key challenges to educational outcomes, especially in less developed countries. Better decision making, more engagement in the political process, and positive spillover effects to those around the educated person are just a few benefits of education (Todaro and Smith, 2011). Public sector accounting education has come into the focus of the scientific community in the last few years, with interest in public sector accounting shifting from purely technical and contextual knowledge to a more interdisciplinarity aspect.

New Public Management (NPM) has occupied the focus of public sector accounting, especially in Anglo-Saxon countries, giving it the role of a technical language and framework for public sector reforms. Although public sector accounting has undergone tremendous development over the last three decades, there are some new perspectives to develop it beyond its traditional role as a technical tool. Several studies have emphasised the importance of the societal impact of accounting (Miller and Power, 2013; Vosselman, 2014; Modell, 2014), which should be specifically relevant to the public sector. Public sector accounting is expanding its role in modern society and a growing number of stakeholders are demanding accountability, transparency, openness and participation. This trend in public governance (management) emphasises the importance of governments' ability to manage, govern and monitor contracts, partnerships and relationships to protect the public interest (Cohen et al., 2021). The public sector should be reconceptualized from a mere environment and space to an arena of public interest, with a focus more on the realization of public policies than on the organizations and concrete spaces (Steccolini, 2019). This new public sector paradigm could be framed by good governance theory, which is becoming the dominant theory for analysing contemporary socio-political content (Keping, 2018; Ongaro and van Thiel, 2018). It refers to the process of public governance/administration<sup>1</sup> that maximizes the public interest in a way that ensures active participation between citizens and government. It assumes that success depends on mutual participation in public debate, consultation, and subsequent public policy formulation, which in practice means the involvement of government agencies, interest groups, businesses, and civil society. The theory of good public governance includes six basic principles such as legality, transparency, rule of law, responsiveness, efficiency, and

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<sup>1</sup> See the connection in Kovac et al., 2016, pp. 132.

accountability (Keping, 2018). The last principle refers to accountability mechanisms, which are crucial in democracies as they aim to identify appropriate behaviour and organizational performance (Schillemans, 2016).

Since the implementation of public sector reforms is more successful in countries where civil servants are better educated (Soll, 2014; Adam et al., 2019; Sciulli and Sims, 2008; Heiling, 2020), our main objective was to investigate the conditions for public sector accounting education (PSAE) in three countries (the former Yugoslavia). Based on good governance theory and the principle of accountability, our work is a pioneering attempt to assess the practise of public sector accounting, focusing mainly on the courses within higher education programmes at the university level on the one hand, and on the specifics of public sector accountants' knowledge on the other. The ongoing development of an internationally harmonised public sector accounting system as well as recent societal challenges (AI, climate, energy, and war crises) were the motivation for investigating PSAE systems in countries with common history and similar institutional traditions but very different current status.

Using the desk research methodology and conducting a survey among accountants, the aim of the paper is to provide answers to two research questions:

1. Which topics and competencies are most frequently covered in (undergraduate and postgraduate) public university courses in Slovenia, Bosnia and Herzegovina (BiH), and Croatia?
2. How do accountants evaluate the knowledge they obtained during formal university education?

The paper is divided into 4 sections. Following on from the introduction, the second chapter is dedicated to a review of the literature, the third presents the methodology, and the fourth contains the results of our research. The results chapter is divided into subchapters according to two research questions. The fifth chapter is the discussion, and the last is the conclusion.

## LITERATURE REVIEW

The public sector is a powerful part of any society, and the economic consequences of its decisions are significant. Inspired by NPM ideas, intensive public sector reforms have taken place during the last three decades. Pioneers like New Zealand, Australia, and the UK have focused on improving public sector financial management by implementing accrual accounting and budgeting in order to achieve better value from important public spending, and other countries, especially in Europe, have followed this trend (Cordery, 2013). In 2020, 49 (out of 165) countries reported using accrual accounting in their financial reporting, 57% of which use IPSAS directly, indirectly, or as a reference point (IFAC and CIPFA, 2020). Nevertheless, public sector accounting in the EU is characterised by shortcomings and a lack of comparability, which has encouraged EU to start discussion about potential implementation of EPSAS implementation. In

recent years, some important preparatory steps have been made towards comprehensive accounting reforms, and several countries have also made important steps forward (PwC, 2020).

Countries report different results as far as public sector accounting reforms are concerned (Brusca and Martinez, 2016; Jorge et al., 2019; Jones and Caruana, 2016; Argento et al., 2018), but rarely do these ex-post analyses include the available resources engaged (Antipova and Bourmistrov, 2013; Christiaens et al., 2010). The results of previous studies (Steccolini, 2019) reveal that public sectors in different countries are influenced by different aspects of public sector accounting, and so different actors (like politicians, managers, accountants, economists, advisors, and policy makers) and differences in culture, perceptions, expectations, and professional norms have resulted in different public sector accounting systems. The fact that public sector accounting matured at an intersection between various disciplines – public administration and management, financial and management accounting, political science, sociology, psychology, public finance, etc. – might influence the topics of the public sector accounting courses in education systems in different countries. Finally, public sector accounting systems of Slovenia, Croatia, and BiH have rarely been researched, although there have been some pioneer attempts to compare ex-Yugoslavian countries (Jovanović, 2015; Kostić et al., 2019).

The topic of public sector accounting education (PSAE) has been very modestly researched in the existing literature. In recent years, there have been a few papers, like Adam et al., 2019; Thom, 2019; Heiling, 2020; Karatzimas, 2020; Karatzimas et al., 2022; Cohen and Karatzimas, 2022, addressing different perspectives on the influence of PSAE on various public concepts (like accountability and trust, public sector reforms, etc.), while the literature review of the private sector is much more impressive. Apostolou (2013, 2016) reports on 291 articles and 104 instructional cases in the period from 2010 to 2012 (Apostolou, 2013), and an additional 256 articles published in the period 2013–2014 (Apostolou, 2015). Schmidt and Günther (2016) revealed the dominance of Anglo-American papers in a systematic literature review of 236 papers on public sector accounting research in higher education published in 83 scientific journals between 1980 and 2014. In aforementioned modest volume of literature focusing on PSAE, there are some interesting findings. Adam et al., 2019 verified human resources knowledge and competence potential for future public sector accounting reforms in four EU countries (Germany, Italy, Portugal, and Spain) and, via survey questionnaires among professors, assessed the potential for future IPSAS/EPAS implementation. For Australia, Sciulli and Sims (2008) confirmed a very limited scope of teaching in Australian universities. Similarly, Heiling (2020) suggests rethinking full study programmes at master level due to the growing complexities of public sector accounting, as well as its increasingly interdisciplinary nature. Finally, Karatzimas (2020) shared research findings on the role that better public sector accounting knowledge among citizens might have, claiming that democratic participation could be enhanced by educating citizens on the issues of public accounting,

making them able to better understand, monitor, and evaluate the performance of public administration.

Recent trend of PSAE research is exposing the need for accounting to move away from technical issues and focus more on societal impacts including non-financial aspects, digitalization, artificial intelligence, even soft skills, etc. (Heiling et al, 2023; Globočnik-Žunec, 2018). Even In this theoretical framework, there are two important issues to be addressed and further researched in our paper. Firstly, higher education institutions have not engaged with the changes in public sector reforms that have taken place in recent decades (Adam et al., 2019), and secondly, PSAE is mainly delivered by business schools rather than colleges, schools, or departments offering public affairs programmes or courses of public sector accounting (Neves et al., 2022). Those two issues will be the in-depth research challenge of our paper, focusing mainly on research into public university courses on one side, and public sector accountants' perception of their own education and knowledge on the other.

## METHODOLOGY

The methodological framework of this study is adapted for the interdisciplinary nature of the problem studied (Patton, 1990), and enables a comprehensive analysis of previous studies of education in the field of public sector accounting. This study is based on the analysis of primary and secondary sources, focusing mainly on the systematic review of the web pages of public universities specialising in social science. Aside from collecting data on university programmes focused on public sector accounting or on the public sector more generally, the main focus of the paper was to explore the courses within those programmes. The syllabuses of the public university courses in undergraduate (8) and postgraduate (16) programmes that include topics relating to public sector accounting in the loosest sense was collected. For the first step, a systematic and in-depth review of syllabuses was conducted. In the second step, the following data were collected: a) the name of the university, b) the study programme, c) the name of the course, d) topics, e) competences<sup>2</sup>, f) number of pedagogical hours, g) share of ECTS as %, and h) the total number of ECTS per programme. Additionally, the conditions for public sector accountants licencing were researched for all three countries.

Due to the specifics of the topic, the second research question was explored via a survey. Since accountants' knowledge and education has turned out to be an important determinant of PSAE (Adam et al., 2019; Sciulli and Sims, 2008; Heiling, 2020), these two determinants have been incorporated into the research framework of this study. The non-probability technique of sampling has been used, which help researchers to subjectively

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<sup>2</sup>Competences are context-dependent knowledge, skills, and approaches that are inseparable and in which emotional, motivational, normative, and ethical elements play an important role, and which are only partly objectively measurable (Budding et al, 2022).

select unit that represents the population under study. Unlike probability sampling, non-probability sampling does not involve random selection rather samples are selected based on accessibility (Etikan et al., 2016). The available databases of accountants' contacts for all three countries have been used. The databases consist of contacts from central government (ministries and other included units), municipalities, and other public sector units (public institutions and public agencies)<sup>3</sup>. The total number of public sector accountants in Slovenia is around 2,500, in Croatia more than 4,000, while the authors do not possess the data for BiH (900 licenced public sector accountants). As far as respondents to the survey are concerned, the "accountants" were named professionals of any rank from accounting and budgetary departments (including bookkeepers excluding other officials). After a few pilot tests of the questionnaire in all three countries, the survey was conducted online in Slovenia and Croatia, and on site in BiH in late 2021 and early 2022. The response rate was 30 respondents in Slovenia, 71 respondents in BiH, and 76 in Croatia.

As mentioned above, the desk research of the first and secondary resources was conducted to isolate precise data about 24 courses offered among 16 study programmes. A survey methodology was used for the second research question. Aside from collecting various independent variables (gender, age, education, position of work, organisation, etc.), the main idea was to assess accountants' perceptions regarding how sufficient they find the knowledge they obtained during their university educations for the tasks they are working on. On a scale from 1 – "I do not agree" to 5 – "I completely agree", participants rated the statement, "I find my knowledge of public sector accounting obtained at university level to be insufficient for my work at my job in the accounting department", as well as statements concerning the obtaining of additional knowledge and information.

## RESULTS

### Analysis of the topics and competencies of university PSA courses'

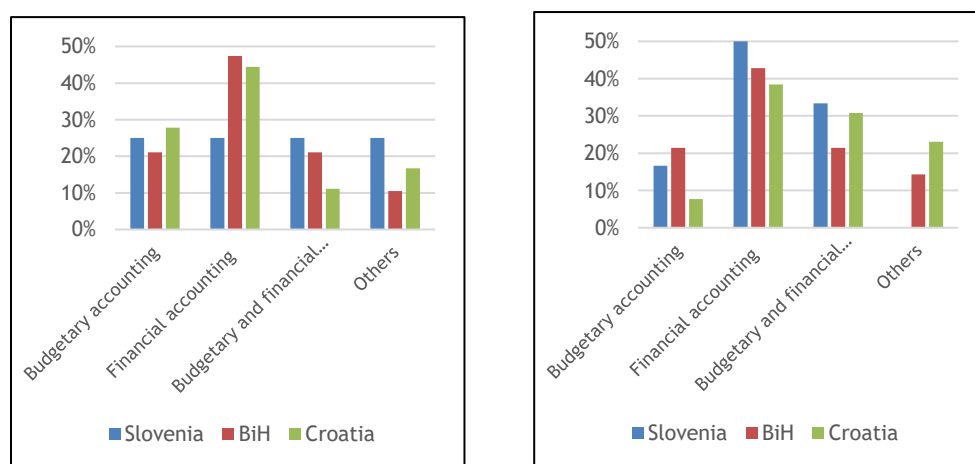
The desk research on courses in higher education institutions (HEI) reveals that there are only nine PSA courses (within nine study programmes) across the three countries at the graduate (undergraduate) level offering topics and knowledge on public sector accounting (one in Slovenia, four in BiH, and four in Croatia), while only three are compulsory. The majority is named "accounting for non-profit organizations", which includes broader topics than public sector accounting. The in-depth analysis of the topics and competencies from the syllabuses reveals that in all three countries a majority of topics and competences is dedicated to financial accounting. In all three countries, only a few of the basic courses and the predominant financial accounting topics and skills could be described as "state of the art".

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<sup>3</sup>The public enterprises are entities under jurisdiction of private law and corresponding accounting rules, so they were excluded from our survey.

The titles of the courses are very similar, as are the topics within the courses. It is interesting to note that only one programme includes the topic of auditing (Slovenia) and only one mentions IPSAS. Summarised results are presented in Graph 1 and Graph 2, while more detailed results are available in Appendix 1.

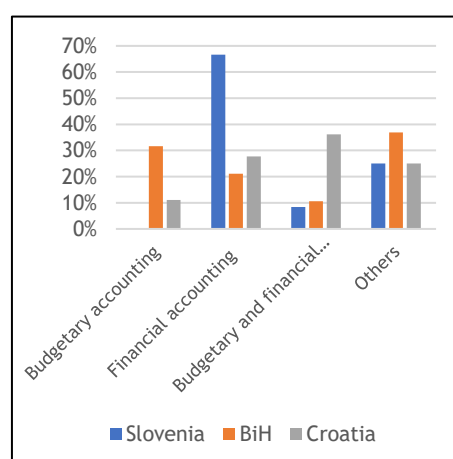
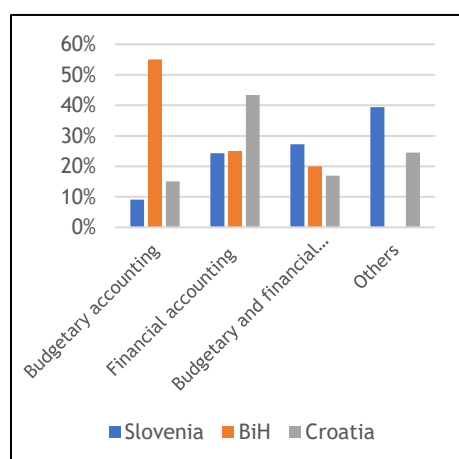
**Graph 1 and 2:** Undergraduate courses in Slovenia, BiH, and Croatia according to topics (Graph 1\_left) and competences (Graph 2\_right)



There are many more programmes and courses at the postgraduate level in all three countries. Some programmes at the postgraduate level are even more specific, like Management and Economics in Healthcare in Slovenia, and Public Sector and Environmental Economy in BiH. From the Appendix 2, it can be observed that in Croatia at the University of Rijeka, there are three university specialist study programmes, one of which is Public Sector Management. At this programme, there are two courses: Management and Accounting in Public Sector and Accounting for budgetary and non-profit organizations. Also interesting is that only in Croatia, there is a doctoral programme (Economics and Business Economics) at which Financial reporting for non-profit organizations is placed.

The analysis reveals that the most obvious differences among countries can be seen in topics and competencies. In Slovenia, financial accounting is predominant among competencies, while budgetary accounting is most frequently named in BiH syllabuses, and in Croatian, budgetary and financial reporting. In BiH, a few courses explicitly list IPSAS as a topic, while international accounting standards in general is a topic on Croatian courses. In Slovenia, topics are much more general. Out of nineteen courses at postgraduate level, eleven are compulsory, while others are elective. Summarised results are presented in Graph 3 and Graph 4, while more detailed results are available in Appendix 1.

**Graph 3 and 4:** Postgraduate courses in Slovenia, BiH, and Croatia according to topics (Graph 3\_left) and competences (Graph 4\_right)



Additionally, our research explored the legal and other requirements required for public sector accountants. The research results reveal that there are no legal conditions determined for the public sector accountant profession in Slovenia, although the education programme exists (Rulebook on the conditions for obtaining the title of state internal auditor and certified state internal auditor, Official Gazette No. 50/15 and 79/15).

BiH is the only one of the three countries that has legislated the conditions for the accounting profession in the public sector. The laws in the field of accounting and auditing stipulate that only qualified and certified professionals, who have obtained a license from approved professional associations, may sign financial statements. Ongoing professional education is also required to maintain this licensure. There is no specific title for public sector accountants. Rather, all accountants, regardless of whether they work in the public or private sector, acquire a single title, although there are separate training programmes for accountants working in the private and public sectors. Applicants with a degree in business administration (economics) specialising in accounting and auditing may be exempt from certain courses (exams) if they can prove that they have passed an exam largely consistent with the curriculum of the license-level course (Act on accounting and auditing of the Federation of BiH, Official Gazette of the Federation of BiH, No. 15/21 and The rule on the method of issuing and withdrawal licenses to certified accountants and certified accountants accounting technicians).

In Croatia, the profession of accountant in the public sector is neither certified nor regulated. There are no prescribed or uniform conditions or job descriptions for accountants in the public sector. Moreover, there are no prescribed conditions for permanent training, although permanent training for persons working in public finance is defined (Budget Act, Official Gazette 144/2021).

## Analysis of accountants' perception of their knowledge and permanent education

Before presenting the results regarding the paper's second research question, survey respondents' genders, ages, and education levels are presented in Table 1.

**Table 1:** Distribution of survey respondents by gender, age, and educational level

		Slovenia (n=30)	BiH (n=71)	Croatia (n=75)
Gender	Female	100.0%	81.7%	86.7%
	Male	0.0%	18.3%	13.3%
Age	20 to 30 years	0.0%	5.6%	1.3%
	31 to 40 years	26.7%	31.0%	30.7%
	41 to 50 years	30.0%	31.0%	34.7%
	51 to 60 years	43.3%	23.9%	25.3%
	over 60 years	0.0%	8.5%	8.0%
Finished school/education	High school	3.3%	7.0%	21.3%
	Professional School	26.7%	2.8%	10.7%
	Undergraduate university degree	66.7%	85.9%	56.0%
	Postgraduate university degree (master or PhD degree)	3.3%	4.2%	12.0%

It can be observed that most respondents in all three countries are female with undergraduate university degree of education. They are quite evenly distributed in age groups, although in BiH and Croatia the sample included accountants, being more than 60 years old and in Slovenia the largest share of those are more than 50 years old.

The survey results (see Table 2) show that more than half of the accountants in all three countries perceive their knowledge obtained during formal university education to be insufficient for work in their current workplace. In Slovenia and BiH such answers were given by approximately half the participants, while more than three-fifths (61.3%) of accountants from Croatia perceive their formally obtained knowledge as insufficient for their current job (answers 'I agree' and 'I completely agree'). Only a few accountants stated that the knowledge they acquired during formal education was sufficient to work in their current position - every eighth accountant from BiH, every tenth accountant from Slovenia, and barely 3% of the accountants from Croatia.

**Table 2:** The perception of accountants surveyed of the sufficiency of the knowledge they obtained at university level for working in an accounting department

I do not find knowledge I obtained during university education to be sufficient for the tasks that I am working on at my job in an accounting department.	BiH		HR		SLO	
	f	%	f	%	f	%

I do not agree	9	12.7%	2	2.7%	3	10.0%
I partly agree	20	28.2%	4	5.3%	8	26.7%
I neither agree nor disagree	6	8.5%	23	30.7%	4	13.3%
I agree	29	40.8%	24	32.0%	11	36.7%
I completely agree	7	9.9%	22	29.3%	4	13.3%
Total	71	100.0%	75	100.0%	30	100.0%
Mean value (M)	3.07		3.80		3.17	

With the aim of obtaining more detailed insight in characteristics of respondents, who on average evaluated their knowledge as generally insufficient, our analysis has been deepened. The survey results revealed that there were differences in the percentage of respondents who graduated in accounting and finance module; in Slovenia 43.3%, in BiH 59.2%, and in Croatia 23%. In this manner, our study focused on exploring the differences in perception of those accountants who graduated in accounting and finance module and those who graduated on other universities. Using the Mann-Whitney test (see Table 3) for each country, it turned out that, for the most part, there are no statistically significant differences between these two groups, with the exception of Slovenia. For Slovenian respondents statistically significant degree ( $U = 59.5$ ;  $p = 0.027$ ) of differences were confirmed, which means that Slovenian respondents with university degree at accounting and finance perceive their knowledge as less insufficient than respondents with other education.

**Table 3:** Results of the Mann-Whitney (U) test

I do not find the knowledge I obtained during university education to be sufficient for the tasks that I am working on at my job in an accounting department.	Graduated at University, Department of Economics - Module Accounting and Finance			Other education		
	N	M	SD	N	M	S D
BiH ( $U = 526.5$ ; $p = 0.311$ )	42	3.19	1.292	29	2.90	1.235
CRO ( $U = 439.0$ ; $p = 0.541$ )	17	3.88	1.111	57	3.75	0.987
SLO* ( $U = 59.5$ ; $p = 0.027$ )	13	2.62	0.961	17	3.59	1.326

Very similar test (Kruskal-Wallis ( $X^2$ )) has been made for the same variable ("Knowledge acquired during formal education was not sufficient for me to work in my current position") according to age of accountants and presented in Table 4.

**Table 4:** The results of the Kruskal-Wallis ( $X^2$ ) test

I do not find the knowledge I obtained during university education to be sufficient for the tasks that I am working on at my job in a accounting department	40 years or under			Between 41 and 50 years			Over 50 years		
	N	M	SD	N	M	SD	N	M	SD
BiH ( $\chi^2 = 1,685$ ; $df = 2$ ; $p = 0,431$ )	26	2.92	1.262	22	2.95	1.174	23	3.35	1.369

CRO ( $\chi^2 = 1,176$ ; $df = 2$ ; $p = 0,555$ )	2 4	3. 6 7	1.2 04	26	3.9 6	1.03 8	2 5	3. 7 6	0.7 79
SLO ( $\chi^2 = 2,678$ ; $df = 2$ ; $p = 0,262$ )	8	3. 6 3	1.4 08	9	2.6 7	1.22 5	1 3	3. 2 3	1.1 66

The results revealed (Table 4) that neither the age of the respondents nor their level of education has a significant impact on whether they consider the knowledge they acquired during their formal education to be sufficient for their work in the accounting departments of public sector organisations.

The perception of accountants in all three countries as far as knowledge obtained at the undergraduate level has turned to be insufficient on average (exception was Slovenia when comparing group of respondents, who graduated in accounting and finance with respondents with other education). Due to the fact that nowadays knowledge and competencies should be continuously supplemented, our study also investigated the methods by which accountants are continually supplementing their knowledge. The survey results (see Table 5) revealed that in all three countries, the respondents on average strongly (in BiH 4,41, in Croatia 4,30 and in Slovenia 4.24 out of 5) agree that consultations with colleagues from their profession or from other related institutions are their most frequently applied way to obtain fresh knowledge and information, while the respondents on average least agree with the statement that application to university is their most frequently applied method.

**Table 5:** Most often applied methods for ongoing knowledge acquisition

Which is most frequent way you obtain additional knowledge and information about your profession?	BIH			HR			SLO		
	N	M	SD	N	M	SD	N	M	SD
Consultations with colleagues from my profession, or other related institutions	6 8	4. 41	0.7 17	7 6	4. 30	0.8 49	2 9	4. 24	0.9 51
Self-study of literature and legal frameworks	6 8	4. 09	0.8 76	7 6	4. 36	0.8 60	3 0	4. 23	1.0 06
Forwarding questions to, and reading the explanations of, competent authorities (e.g. the Ministry of Finance)	6 9	3. 70	1.0 19	7 6	3. 67	1.0 76	3 0	4. 07	0.9 07
Attending seminars and other forms of education	6 8	4. 28	0.8 26	7 6	3. 64	0.9 19	3 0	3. 43	0.9 35
Contracting professional consultants	6 8	3. 47	1.0 00	7 6	3. 29	1.0 69	3 0	1. 43	0.9 35
Application to university (master's degree, specialization)	6 8	3. 15	0.8 33	7 6	2. 17	0.5 26	2 8	1. 36	0.9 51

In this research step, the influence of education and age on the methods by which accountants are continually supplementing their knowledge has been proceeded. It turned out (for details see Appendix 3 and Appendix 4) that in all three countries, the most commonly applied methods are consultation with other professional colleagues, and self-study of literature and legal frameworks. In this regard, BiH stands out in terms of the frequency with which with seminars and other forms of continuing education are pursued, while Slovenian respondents more frequently ask questions and read explanations provided by the competent authorities. In contrast to BiH and Croatia, the hiring of professional consultants is rarely done in Slovenia, while it seems to be widespread in BiH and Croatia. When it comes to

obtaining further knowledge at university, the respondents from BiH (compared to other two countries) reported the highest frequency. The analysis of the characteristics of the survey respondents did not reveal statistically significant differences in terms of age, although the level of education proved to be an important (and statistically significant) factor in Slovenia. Respondents with a university degree apply “application to the university” less than those without a university degree, while statistically significant differences between the two groups appear regarding the method of attending seminars and other forms of continuing education, as well as regarding consultation with other colleagues.

Furthermore, we were interested in how the sufficiency of knowledge acquired in formal education is related to the ongoing knowledge acquisition, because this provides us with information on how accountants compensate the lack of knowledge acquired in formal education. Using Spearman's coefficient, we examined the correlation between the perceived sufficiency of knowledge acquired in formal education and the frequency of using methods for ongoing knowledge acquisition. The results (Spearman's  $\rho$  and  $p$  value) are presented in table 6.

**Table 6:** Correlation between sufficiency of knowledge acquired in formal education and applied methods for ongoing knowledge acquisition

	BIH (n = 68)		HR (n = 75)		SLO (n = 30)	
	$\rho$	p	$\rho$	p	$\rho$	p
Consultations with colleagues from my profession, or other related institutions	-0.103	0.404	-0.106	0.366	0.352	0.061
Self-study of literature and legal frameworks	<b>0.239</b>	<b>0.050</b>	0.096	0.411	0.096	0.615
Forwarding questions to, and reading the explanations of, competent authorities (e.g. the Ministry of Finance)	<b>0.259</b>	<b>0.031</b>	-0.002	0.984	<b>0.442</b>	<b>0.014</b>
Attending seminars and other forms of education	0.146	0.234	0.145	0.216	0.300	0.107
Contracting professional consultants	0.145	0.238	0.068	0.560	0.277	0.139
Application to university (master's degree, specialization)	0.102	0.407	-0.225	<b>0.052</b>	-0.085	0.669

It was found that accountants from Bosnia and Herzegovina who tend to rate the knowledge acquired in formal education lower, more frequently engage in self-study of literature and legal frameworks, as well as forwarding questions to and reading the explanations of competent authorities (e.g., the Ministry of Finance). Although the correlations prove to be weak, they indicate the direction of which methods accountants use more frequently to compensate for the lack of knowledge. The lower accountants from Slovenia rate the knowledge acquired in formal education, the more frequently they engage in forwarding questions to and reading the explanations of competent authorities. The correlation is moderately strong.

It is interesting that the lower accountants from Croatia rate the knowledge acquired in formal education, the less frequently they seek knowledge through formal education (enroll in master's studies and specialization). The correlation is weak and borderline statistically significant, but it opens the possibility for interpretation that those Croatian

accountants who had a poorer experience with formal education are less likely to seek further knowledge through continued formal education, and conversely, the better the experience with the knowledge acquired in formal education, the more likely they are to continue formal education.

## DISCUSSION

The field of PSAE has recently developed into a very interesting area of research, even if the number of papers is still quite limited. The introduction of accrual accounting in the public sector based on various international (e.g. IPSAS) and national accounting standards over the last 20 to 30 years seems to have been a great accelerator of education needs (Adam et al., 2020). This trend has become even more significant in the post-pandemic period as EU Member States have agreed on financial recovery plans to overcome the crisis. If previously high implementation costs have hindered public sector accounting reforms, it is now evident that it is time to establish budgets and plans that take into account not only information technology and professional accounting standards, but also accounting education (Cohen et al., 2021). However, the biggest challenges of the PSAE field seem to be its isolation from other disciplines, especially its influence on public policy on the one hand and its lack of theorization on the other (Steccolini, 2019).

Nevertheless, there are nowadays some studies (Steccolini, 2019; Moore, 2014; Grossi et al., 2023) that show the potential of accounting research in a broader socio-political context. Based on the theory of good governance (Kovac et al., 2016), the role of government has changed over time (Aristovnik et al., 2022). Government has emerged as one of many actors in an increasingly crowded policy arena and therefore needs to renew its characteristics in response to new challenges. The (good) public governance paradigm argues that governments and the public sector need to strengthen accountability, transparency, openness and participation in response to stakeholder heterogeneity (Grossi and Steccolini, 2014).

The last point refers more broadly to accountability mechanisms, including the education system, which are among the most important building blocks for the improvement of public sector organisations. Nowadays, public sector organisations, especially universities and other educational institutions, must follow the principles of good governance and be accountable to a variety of stakeholders (e.g. government agencies, inspectorates, auditors, media, etc.). Accordingly, public accountability is a pervasive factor in the professional lives of public managers, bureaucrats and all professionals associated with the aforementioned institutions working in an increasingly dense web of accountability. There is a great certainty that their strategic and operational decisions, actions and files will be criticised by a variety of external accountability forums (Schillemans, 2016).

As public sector accountants are directly or indirectly part of these networks of accountability, their knowledge and skills need to be reassessed. The results of our research show that the number and variety of university courses (and study programmes) differ across countries, which

can be explained (at least partially) by the population (Slovenia 2 million, BiH 3.2 million and Croatia 4 million) and the size of the country, but this is not crucial for the main objective of the study. The analysis of the topics and competences covered in the study programmes shows that there are only a few (8) undergraduate courses (and programmes) in public sector accounting in the three countries, while the universities offer a larger number of postgraduate programmes (16). Considering that all courses are offered within undergraduate business programmes, it is clear that accounting knowledge applicable to the public sector is difficult to obtain, especially at the undergraduate level. Nevertheless, it is of great importance to reflect on whether it makes sense to distinguish between the public and private sectors, as this distinction is becoming increasingly blurred and outdated. This is because new forms of organising economic activities, deciding on public interests and values and providing public services are emerging and spreading, not to mention that in most Western countries the share of GDP managed through public budgets and public services can reach around 50% (Steccolini, 2019).

The findings of our study reveal that a slight majority of respondents in all three countries agree that they did not obtain sufficient knowledge at university for their professional work. Consequently, ongoing knowledge improvement based on expert consultation and training are popular in BiH, where application to university is also a much more positively perceived solution than in the other two countries. The results of our research confirm the commonly known facts in the field, where the accounting profession does not have a high status in the public sector, neither from the perspective of reputation nor from the perspective of salary. The public policy regarding the provision of PSAE in business schools confirms the findings of previous studies (Neves et al., 2022) as well as the finding that universities have not addressed the changes of public sector reforms (Adam et al., 2019). Nevertheless, there are some differences between Slovenia, Croatia, and BiH. Slovenia and Croatia, as EU members, have permanent economic and especially financial management and fiscal control, respectively, which poses some challenges to public accounting systems in terms of coordination and reporting. All of this has not accelerated reforms or improvements in public accounting systems, especially in Slovenia, where the basic regulation (the Public Finance Act) has not been fundamentally changed since year 2000. Massive training or licencing of public sector accountants does not occur because the public sector salary system is too inflexible and consequently does not offer stimulating rewards. On the contrary, there is much more activity in BiH, where international organizations (such as the IMF) encourage decision makers to improve the system of public financial management and, consequently, accounting. This situation is reflected in several study programmes (see Appendix 1 and 2) and in the need for academic training and knowledge.

The small number of courses (and study programmes) and pedagogical hours covering public sector topics and competences in all three countries might explain the survey results, whereby accountants perceive their knowledge as insufficient, especially in a context where neither age nor level

of education have influenced results. In this respect, the universities of BiH are offering by far the highest number of courses (and study programmes) that could be connected with public sector accountants' professional requirements. Given the fact that BiH has undergone much more intensive reforms in public sector financial management, supported by external consultants (like IMF), than the other two countries have had, the diversity of public sector accounting courses and study programmes (relative to number of inhabitants) is not surprising. Unfortunately, previous studies (Sciulli and Sims, 2008; Cordery, 2013) did not conclude that public sector reforms (especially those that are ongoing) create the need for undergraduates to be exposed to public sector accounting topics (Sciulli and Sims, 2008; Cordery, 2013), nor that there is a need for specific public sector accounting programmes and topics, beyond the re-engineering of existing syllabuses (Heiling, 2020). Aside from our own research, there are the findings (Adam et al., 2020) that only a few existing university syllabuses cover international standards, and that it might be a challenge for universities to expand the scope of programmes (Cohen et al., 2021). Furthermore, according to an ongoing discussion on the influence of accounting theory on accounting practice, and on its impact on good governance paradigm (Steccolini, 2019; Jansen, 2018) on one side and the challenges of global environment (reflecting in ESG) on the other should reflect in the study programmes of PSA field to narrow the gap between the demand and supply side of PSAE field as soon as possible. Namely, findings of our study reveal that nor principles (like accountability, transparency, etc.) and not global challenges (sustainable reporting) are addressed in public sector including PSAE programmes in Slovenia, Croatia and BiH.

This paper presents a pioneering attempt to contribute to the improvement of PSAE by exploring three eastern European countries' higher education systems. A major limitation of the paper is that it is unable to isolate and explore the answers of respondents, who graduated at one of the study programmes presented in the first part of our study and those respondents that did not graduate. In this context, our paper could not provide differences in knowledge of respondents, who graduated at programmes listed (Appendix 1), nevertheless the statistically significant differences in knowledge for Slovenia have been proved. In the context of international comparativeness, the future research challenge to analyse PSAE in countries outside Eastern Europe is seen as valuable perspectives on global trends and best practices compared to our research paper.

## CONCLUSION

Our work complements the modest scope of research in PSAE for the eastern countries of the former common state (Yugoslavia). This pioneering attempt to explore the state of university programmes and courses in public accounting resulted in a comprehensive analysis of undergraduate and post graduate programmes in all three countries, on the one hand, and an assessment of the acquired knowledge of accountants at the university level,

on the other. The assessment showed that the scope of courses, especially at the undergraduate level, is modest and that accountants' knowledge is insufficient. The research focused mainly on the assessment of technical and contextual knowledge, not considering the skills and competencies related to the publicness concept in public accounting. Public governance as a post-NPM idea extends the mission and role of public sector accountants toward publicness, including the concepts of public interest and public value. Considering these facts, university programmes and courses should take steps toward these progressive ideas that do not neglect the neoliberal (NPM) approach to accounting, but disseminate it at a collaborative, co-productive, and open level.

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## Appendix 1

1	2	3	4	5	6
<b>SLOVENIA</b>					
University of Ljubljana	Administration	Accounting/ Compulsory	Financial management of public sector organizations Accounting and reporting in public sector organizations Auditing in the public sector	essential accounting categories (accrual and cashflow principle); the basic and final bookkeeping transactions; the balance sheet, the profit and loss accounts; the specifics of accounting in private company and public entity; the budget and accounting reports	45
<b>BOSNIA AND HERZEGOVINA</b>					
University of Sarajevo	Management	Accounting for Non-profit Organizations/ Compulsory	Accounting of budget organization Accounting principles Standards in public sector accounting Financial reports in the public sector	key concepts from the field of budget accounting; recording transactions (principles and standards for the state sector and applicable regulations); financial reporting (examination and assessment of financial statements and data and using appropriate methods when compiling financial reports)	30
University of Tuzla	Economics	Public Sector Accounting/ Elective	Budget and budgetary accounting Accounting principles in the public sector Budgetary planning Recording and analysing transactions in budgetary organizations	budgetary accounting; budgetary reporting; recording transactions and events in public sector entities	60
University of Bihać	Accounting and Auditing	Accounting for Non-profit Organizations/ Elective-	Main characteristics of accounting in non-profit organizations Accounting processes in the public sector Financial reporting Budgetary processes Treasury and management of public expenditures Recording transactions in the public sector	the application of key concepts in the field of accounting in non-profit organizations; preparation and presentation of financial reports in non-profit organizations	90
University of Zenica		Accounting for Non-profit Organizations / Elective	Characteristics of non-profit organizations IPSAS Chart of accounts for non-profit organizations Financial statements	profit and non-profit sector accounting requirements; legislation and regulation; accounting standards; accounting frameworks; financial reports; surveillance and auditing	60
<b>CROATIA</b>					
University of Split	Business Studies - Accounting and Auditing	Accounting for Non-profit Organizations / Elective course	Accounting for budgetary and non-profit organizations Types of organizations Institutional and professional framework of accounting Budget classifications Chart of accounts and accounting rules, financial statements, and annual reports Application of the chart of accounts	underlying settings of non-profit and public sector entities; accounting systems of non-profit and public sector entities; the basic static and dynamic elements of financial statements of non-profit organizations and public sector entities; financial statements of non-profit and public sector entities; chart of accounts for non-profit organizations and the chart of accounts for public sector entities	60
University of Zagreb – Faculty of Law	Professional Tax Study	Accounting and Financial Reporting in the Public Sector / Elective course	Budgetary system regulations Public financial management cycle Budget classifications Professional framework of accounting Basic accounting	the legal framework of the budget and budget processes; theoretical and practical knowledge of public sector accounting; application of the accounting framework on examples of	60

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			categories Interpretation of business changes and financial statements of budgetary users	typical business events of public sector entities; financial reporting framework and financial statements of public sector entities	
Faculty of Tourism and Rural Development in Požega	Accounting	Budget Accounting / Compulsory course	Basic accounting categories in a budgetary system Accounting records of changes in asset, liability, sources of ownership, income, cost, receipt, and expenditure Regulations in the budgetary system Business results and balance sheet of a budgetary users Interpretation of business changes and financial statements of budgetary users.	the basic accounting categories in the budget system; accounting records of business changes in assets, liabilities, sources of ownership, revenue, expenses, receipts and expenditure, according to the current regulations in the budget system; calculating the result (deficit or surplus) and drawing up a balance sheet; interpretation of content of financial statements of public sector entities	60

\*1 – University, \*2 – Study Programme, \*3 – Course / Type, \*4 – Topics, \*5 – Competences, \*6 – Number of pedagogical hours

## Appendix 2

1	2	3	4	5	6
<b>SLOVENIA</b>					
University of Ljubljana	Management and Economics in Healthcare	Accounting for Healthcare Organizations/Compulsory Course	Definition of accounting fields Financial reporting to external users and accounting for decision-making in healthcare organizations Peculiarities of public healthcare institutions that impacts financial reporting Legal bases of financial reporting Financial reporting to external users Supervising the performance of the health institutions Annual report, Balance sheet Income statement Accounting for decision making Various cost classification Determination of product cost	the importance of accounting information for decision-making in healthcare organizations; understanding the content of financial statements of health organizations; the basic concepts of healthcare costs; accounting information for business decisions in healthcare	24
		Economic Analysis of Healthcare/ Compulsory Course	Analysis based on cost minimization Analysis of costs and effects / performance Peculiarities of impact assessment Decision rules Analysis of costs and effects / performance in practice Cost-benefit analysis Sensitivity analysis Analysis of costs and benefits in practice	the basic methods and knowledge of economic analysis in healthcare	24
	Accounting and Auditing	Public Sector Accounting/ Compulsory Course	Regulative framework of public sector accounting in Slovenia	importance of public sector accounting; particularities in the recording of assets and liabilities in the	30

			Accounting and budget accounting in public sector enterprises Accounting treatments in non-profit organisations Accounting treatments in state administration Costing in budget beneficiaries Planning in public sector organisations Performance reports of direct and indirect budget beneficiaries International public sector standards and its use in practice	public sector; latest developments in the international public sector accounting	
		Auditing/ Compulsory Course	Governmental auditing	the purpose of governmental auditing	45
University of Maribor	Accounting and Auditing	Accounting for Specific Organizations/Compulsory Course	Types, operations and accounting of non-profit organizations Types, operations and accounting of financial organizations Institutional and professional frameworks of accounting Accounting statements and annual reports Accounting information for internal users Accounting of other special organizations	theory and characteristics of accounting in financial, non-profit, and other special types of organizations; institutional frameworks of accounting, basic financial statements and the use and applicability of modern methods and cost and management accounting tools in these organizations	26
	Management in Health Organizations	Accounting for Non-profit and Financial Organizations/Compulsory Course	Types, operations and accounting of non-profit organizations Financial statements and annual reports Types, operations and accounting of financial organizations Institutional and professional frameworks of accounting Accounting statements and annual reports Accounting information for internal users Accounting of other special organizations	theory and characteristics of accounting in financial, non-profit, and other special types of organizations; institutional frameworks of accounting, basic financial statements and the use and applicability of modern methods and cost and management accounting tools in these organizations	26
<b>BOSNIA AND HERZEGOVINA</b>					
University of Banja Luka	Finance and Auditing in the Public Sector	Financial Reporting in the Public Sector / Compulsory Course	Financial reporting according to IPSAS Financial statements Reporting of budget execution	the differences and similarities between financial and budget reporting and between financial and non-financial reports in the public sector; the specifics of reporting in public sector entities according to International Accounting Standards for Public Sector and state reporting according to the methodology of the International Monetary Fund	48

University of Sarajevo	MBA	Public Sector Accounting / Compulsory Course	Basic accounting categories Accounting systems in the public sector IPSAS financial statements in the public sector	the basic accounting categories; accounting and budgetary system; IPSAS in recording transaction in public sector entities	60
	Public Sector and Environmental Economy	Public Sector Accounting / Compulsory Course	Basic accounting categories Accounting systems in the public sector IPSAS financial statements in the public sector	the basic accounting categories; accounting and budgetary system; IPSAS in recording transaction in public sector entities	60
University of Mostar	Accounting and Finance	Budgetary Accounting / Elective course	Main elements of budgetary accounting Budgets Budget reports Budgetary classification	tracking of changes in budget accounting; analysing business result of the budget user; analysing financial statements of budget users	60
University of Zenica	Accounting and Auditing Management	Budget Accounting and Planning Elective course	Accounting and control Budget equalization Budget preparation Revenues and expenditures Program budgeting Consolidation of budget Budget execution	managing budgets; budgeting; standards; balance maintenance; public debt management	60
<b>CROATIA</b>					
University of Zagreb – Faculty of Economics and Business	Business Economics - Accounting and Auditing	Accounting for Non-profit Organizations / Compulsory course	Accounting for budgetary and non-profit organizations Types of organizations Institutional and professional framework of accounting Budget classifications Chart of accounts and accounting rules Financial statements and annual reports International public sector accounting standards	theoretical, methodological and practical knowledge about public sector accounting and accounting for non-profit organizations; accounting principles and reporting standards in the public and non-profit sector and the legal framework; accounting framework and financial reporting of public sector entities and non-profit organisations; financial statements of public sector entities and non-profit organizations; the role of supervision (internal and external)	60
	Management Accounting and Internal Auditing	Financial Reporting for Non-profit Organizations / Elective course	Accounting for budgetary and non-profit organizations General accounting in the public sector International framework of PSA (IPSAS, EPSAS) Institutional and professional framework of accounting in Croatia Dual reporting system Budget reports and financial reports Accounting information for internal users, performance measurement and cost management Internal controls in the public sector Auditing in public sector	theoretical, methodological, and regulatory framework of accounting and financial reporting of public sector entities; comparison of public sector accounting between countries and the application of IPSAS; accounting and financial reporting in the public sector in management processes at the macro and micro level and supervision (internal and external) in the public sector	20
	Economics and Business Economics	Financial Reporting for Non-profit Organizations/Elective course	Accounting for budgetary and non-profit organizations General accounting in the public sector International framework of PSA (IPSAS, EPSAS)	financial reporting of public sector entities; financial reporting in the public sector of EU countries, other developed countries and countries in transition and the application of IPSAS;	30

			Institutional and professional framework of accounting in Croatia Dual reporting system Budget reports and financial reports Accounting information for internal users, performance measurement and cost management Internal controls in the public sector Auditing in public sector	main financial statements and their application in managing and supervising of public sector entities	
University of Split Faculty of Economics, Business and Tourism	Business Studies - Accounting and Auditing	Accounting for Non-profit Organizations / Compulsory course	Accounting for budgetary and non-profit organizations Types of organization Institutional and professional framework of accounting Budget classifications Chart of accounts and accounting rules, financial statements, and annual reports Application of the chart of accounts	accounting system of non-profit institutions and other accounting systems; application of accrual principles for non-profit institutions; static and dynamic monitoring of business transactions in the assets, liabilities, own resources, revenue (receipts) and expenditures (expenses); designing an accounting information from financial statements of non-profit institutions	60
University of Rijeka – Faculty of Economics and Business	Business Economics – Accounting	Accounting for Budgetary and Non-profit Organizations/ Elective course	Accounting for budgetary and non-profit organizations General accounting in the public sector International framework of PSA (IPSAS, EPSAS) Institutional and professional framework of accounting in Croatia Dual reporting system Budget reports and financial reports Accounting information for internal users with emphasis on performance measurement and cost management Croatian taxation regulation and their effects on budgetary and non-profit organizations.	institutional and functional aspects of the public sector and budget system and its elements; the role of accounting and the differences between accounting concepts and their impact on the quality of financial statements; accounting classifications and basic accounting procedures in the public sector entities; financial statements of public sector entities, performance indicators and the financial position of these entities; the role of the main financial statements in the management and supervision of public sector entities	12
	Business Economics – Controlling	Financial Management and Controlling in Public Sector/ Elective course	Budget system: elements and processes System of financial management in the public sector (budget planning and monitoring of budget execution) Internal and external supervision and control in the public sector Accounting information system as accounting support to management Liquidity and asset management system	financial management and control in the public sector; critical analysis and improvement of established systems of financial management and control in specific cases; critical evaluation and problem solving for effective management in the public sector; raising the level of fiscal responsibility and transparency of public sector entities	15

			Measuring and monitoring performance in the public sector Fiscal responsibility - requirements, assumptions and effects		
	Business Economics - Public Sector Management	Management Accounting in Public Sector / Elective course	New Public Management Accounting and reporting in the public sector Liquidity and asset management system Measuring and monitoring performance in the public sector Fiscal responsibility Auditing in public sector	methods and concepts of management and cost accounting; instruments of cost and management accounting in public sector entities; internal reporting framework that is appropriate to the specifics of public sector units and relevant for making specific decisions	15
	Business Economics - Public Sector Management	Accounting for Budgetary and Non-profit Organizations / Elective course	Accounting for budgetary and non-profit organizations General accounting in the public sector International framework of PSA (IPSAS, EPSAS) Institutional and professional framework of accounting in Croatia Dual reporting system Budget reports and financial reports Accounting information for internal users with emphasis on performance measurement and cost management Croatian taxation regulation and their effects on budgetary and non-profit organizations	institutional and functional aspects of the public sector and budget system and its elements; the role of accounting and the differences between accounting concepts and their impact on the quality of financial statements; accounting classifications and basic accounting procedures in the public sector entities; financial statements of public sector entities, performance indicators and the financial position of these entities; the role of the main financial statements in the management and supervision of public sector entities	12

\*1 – University, \*2 – Study Programme, \*3 – Course / Type, \*4 – Topics, \*5 – Competences, \*6 – Number of pedagogical hours

**Appendix 3: The results of the Mann-Whitney (U) test**

	High school level			More than high school		
	N	M	SD	N	M	SD
Consultations with colleagues from my profession or from other related institutions						
BiH (U = 146.5; p = 0.773)	5	4.40	0.548	63	4.41	0.733
CRO (U = 585.5; p = 0.741)	24	4.33	0.868	51	4.27	0.850
SLO* (U = 48.0; p = 0.028)	9	4.78	0.667	20	4.00	0.973
Self-study of literature and legal frameworks						
BiH (U = 117.0; p = 0.761)	4	4.00	0.816	64	4.09	0.886
CRO (U = 57.0; p = 0.646)	24	4.33	0.761	51	4.35	0.913
SLO (U = 63.5; p = 0.118)	9	4.67	0.707	21	4.05	1.071
Forwarding questions to, and reading the explanations of, competent authorities (e.g. the Ministry of Finance)						
BiH (U = 138.0; p = 0.596)	5	3.40	1.342	64	3.72	1.000
CRO (U = 568.5; p = 0.608)	24	3.75	1.113	51	3.61	1.060
SLO (U = 83.0; p = 0.581)	9	4.22	0.833	21	4.00	0.949
Attending seminars and other forms of education						
BiH (U = 69.5; p = 0.097)	4	3.75	0.500	64	4.31	0.833
CRO (U = 612.0; p = 1.000)	24	3.63	1.013	51	3.63	0.871
SLO* (U = 52.5; p = 0.043)	9	4.00	1.118	21	3.19	0.750
Contracting professional consultants						
BiH (U = 93.0; p = 0.341)	4	3.00	0.816	64	3.50	1.008
CRO (U = 593.5; p = 0.827)	24	3.21	0.977	51	3.29	1.101
SLO (U = 94.0; p = 0.976)	9	1.56	1.333	21	1.38	0.740
Application to university (master's or specialisation degree)						
BiH (U = 124.0; p = 0.902)	4	3.00	0.000	64	3.16	0.859
CRO (U = 580.0; p = 0.519)	24	2.13	0.448	51	2.20	0.566
SLO (U = 71.0; p = 0.493)	8	1.63	1.408	20	1.25	0.716

**Appendix 4: The results of the Kruskal-Wallis ( $\chi^2$ ) test**

	40 years or under			Between 41 and 50 years			Over 50 years		
	N	M	SD	N	M	SD	N	M	SD
Consultations with colleagues from my profession or from other related institutions									
BiH ( $\chi^2 = 1.785$ ; df = 2; p = 0.410)	25	4.44	0.768	22	4.27	0.703	21	4.52	0.680
CRO ( $\chi^2 = 0.732$ ; df = 2; p = 0.694)	24	4.17	0.917	26	4.35	0.797	25	4.36	0.860
SLO ( $\chi^2 = 3.393$ ; df = 2; p = 0.183)	8	4.63	0.744	9	3.78	1.093	12	4.33	0.888
Self-study of literature and legal frameworks									

BiH ( $\chi^2 = 0.842$ ; df = 2; p = 0.656)	26	3.96	0.916	22	4.18	0.795	2 0	4.1 5	0.93 3
CRO ( $\chi^2 = 4.155$ ; df = 2; p = 0.125)	24	4.08	0.974	26	4.62	0.637	2 5	4.3 2	0.90 0
SLO ( $\chi^2 = 5.298$ ; df = 2; p = 0.071)	8	4.75	0.463	9	3.56	1.236	1 3	4.3 8	0.87 0
Forwarding questions to. and reading the explanations of. competent authorities (e.g. the Ministry of Finance)									
BiH ( $\chi^2 = 2.033$ ; df = 2; p = 0.362)	26	3.73	0.874	22	3.45	1.143	2 1	3.9 0	1.04 4
CRO* ( $\chi^2 = 9.346$ ; df = 2; p = 0.009)	24	3.13	0.947	26	4.04	0.916	2 5	3.7 6	1.16 5
SLO ( $\chi^2 = 4.470$ ; df = 2; p = 0.107)	8	4.63	0.518	9	3.67	1.118	1 3	4.0 0	0.81 6
Attending seminars and other forms of education									
BiH* ( $\chi^2 = 9.079$ ; df = 2; p = 0.011)	26	3.92	0.845	22	4.41	0.854	2 0	4.6 0	0.59 8
CRO ( $\chi^2 = 2.232$ ; df = 2; p = 0.328)	24	3.42	0.881	26	3.73	0.827	2 5	3.7 2	1.02 1
SLO ( $\chi^2 = 1.216$ ; df = 2; p = 0.544)	8	3.75	0.886	9	3.33	1.118	1 3	3.3 1	0.85 5
Contracting professional consultants									
BiH ( $\chi^2 = 3.754$ ; df = 2; p = 0.153)	26	3.62	0.898	22	3.14	1.037	2 0	3.6 5	1.04 0
CRO ( $\chi^2 = 1.140$ ; df = 2; p = 0.566)	24	3.08	1.018	26	3.31	1.050	2 5	3.4 0	1.118
SLO ( $\chi^2 = 1.195$ ; df = 2; p = 0.550)	8	1.25	0.463	9	1.22	0.667	1 3	1.6 9	1.25 1
Application to university (master's or specialisation degree)									
BiH ( $\chi^2 = 2.368$ ; df = 2; p = 0.306)	26	3.00	0.894	22	3.18	0.733	2 0	3.3 0	0.86 5
CRO ( $\chi^2 = 2.730$ ; df = 2; p = 0.255)	24	2.13	0.338	26	2.31	0.736	2 5	2.0 8	0.40 0
SLO ( $\chi^2 = 1.072$ ; df = 2; p = 0.585)	8	1.38	1.061	9	1.11	0.333	11	1.5 5	1.21 4