

# COMPARATIVE ANALYSIS OF FORMAL EDUCATION IN FORENSIC ACCOUNTING

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## COMPARATIVE ANALYSIS OF FORMAL EDUCATION IN FORENSIC ACCOUNTING

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### Abstract

*Forensic accounting as a young discipline has gained a lot of attention due to frauds that have been discovered in the early 2000s and the fact that no organization is immune to business frauds. In the last few years, companies are operating in turbulent environment which negatively impacts fraud and tendency to commit fraud. All of this indicated need for stronger fight against fraud and joining forces off all participants in the fight against fraud. In this sense, the role of educational institutions is indispensable, as they should be the initiator of changes and provide answers to environmental challenges. Through this paper authors analysed the level of development of forensic accounting in selected countries by focusing on the level of formal education in this area. To detect achieved level of development of forensic accounting, authors analysed formal education in forensic accounting in four selected countries: Slovenia, Croatia, Bosnia and Herzegovina and Montenegro. Comparative analysis of study programs and courses in which competencies in the area of forensic accounting are acquired was performed.*

*Research results indicate that there are significant differences in the inclusion of forensic accounting courses in study programs depending on the level of the study. Namely, the analysis showed that subjects from forensic accounting are much more integrated into programs at the 7th level of the European Qualification Framework than at the 6th level. Also, research results showed there are differences in the observed level of development of forensic accounting profession among analysed countries. The conclusion that emerges is that the development of the forensic accounting profession in the observed countries is rather slow and that joint, synergic action of all participants in this area is needed in order to encourage stronger development and affirmation of this profession.*

**Keywords:** forensic accounting, education, comparative analysis

**JEL classification:** M41, M42

### Introduction

Forensic accounting is a relatively young discipline whose development was stimulated by global accounting scandals that took place in the early 2000s like Enron, WorldCom etc. The corporate scandals that have occurred highlighted the importance of developing forensic accounting as a separate part of the accounting profession whose primary goal is to prevent and detect business frauds. According to the Association of Certified Fraud Examiners (ACFE),

which has been conducting research on business frauds since 1996, "business fraud is probably the most expensive and most common form of financial crime in the world" (ACFE, 2022, p. 6). The harmful effects of business frauds are also highlighted by Amiram et al. who state that "financial reporting fraud and other forms of financial misconduct are a significant threat to the existence and efficiency of capital markets" (Amiram, Bozanic, Cox, Dupont, Karpoff & Sloan, 2018, p. 2). Forensic accounting can be defined as "the application of investigative and analytical skills to detect fraud and manipulation in financial statements that deviate from professional rules, accounting standards, tax laws and other legal provisions" (Belak, 2011, p. 1). Different authors point out that "forensic accounting is an expanding field" (Fajardo, 2014) and "it will certainly be one of the most popular subfields of accounting and auditing in the coming period" (Bašić, Veledar & Čolpa, 2022, p. 68). The recent health and economic crisis gave a new "driving wheel" to development and affirmation of this discipline of accounting, since experts predict that in the coming period there will be an increase in fraud and fraudulent reporting and consequently an increase in the demand for the services of forensic accountants.

In this context, the American Institute of Certified Public Accountants (AICPA) recognized the importance of this profession and they state that forensic accountants can be seen as key stakeholders in the fight against fraud (AICPA, 2004, p. 6). Oh (2017) also states how in the United States the demand for services of experts in the field of forensic accounting is constantly growing. Also, ACFE states in their 2021 research, that in the coming period, it is expected that there will be an increase in fraud and in the risk of fraud as a result of the COVID-19 pandemic, which will result with increased demand for experts in the area of forensic accounting (ACFE, 2021). Same was detected also by Karpoff (2021, p. 1) who points out that increased probability of fraud can be expected due to the COVID-19 pandemic and subsequent business and economic crises. Such trends put the focus again on the profession of forensic accountants as the main actors in the fight against fraud.

In the context of the profession of a forensic accountant, the topic of formal education of these experts is unavoidable, and the question that arises is where candidates interested in this specific area of accounting can acquire formal education. A forensic accountant is a person who, in addition to experience in the field of accounting, also possesses specific interdisciplinary knowledge acquired through the system of formal education. In this sense, the role of educational or higher education institutions that provide formal education in this specific area of accounting is indispensable. It has already been pointed out that this is a relatively young discipline for which the demand in the world is constantly growing, and the question is how quickly educational programs respond to the needs of the labor market and whether they follow the requirements of the accounting profession in terms of providing formal education in the field of forensic accounting. Namely, study programs should be continuously updated and adjusted to new trends and requirements of the labor market, where there is certainly a need for the services of forensic accountants. The authors point out that there is a gap between formal education in the field of accounting and the needs of the labor market, and that accounting programs need to be continuously adjusted to the needs of the labor market.

Kavanagh & Drennan (2008) point out that recommendations that strive to reduce the gap always ask accounting educators to recognize the needs of the accounting profession and include these requirements in accounting education and accounting curricula (Kavanagh & Drennan, 2008, as cited in Novak, Barišić & Mamić Sačer, 2021). Bašić et al. (2022, p. 56) point out that "a prerequisite for quality education of a person who will deal with fraud investigations is a curriculum with clearly defined professional subjects, harmonized with world standards in this field". Joseph & George (2003, p. 24) point out how "weakness in

accounting education has a direct impact on the skills and knowledge acquired by accounting graduates". Programs designed for acquiring competences in the field of forensic accounting should emphasize interdisciplinary of this field and enable acquiring knowledge and skills related primarily to the prevention and detection of frauds.

Courses that enable acquiring competences in forensic accounting can be included in study programs at different study levels: from undergraduate to graduate and postgraduate study levels. The aim of this work is to provide an insight into the possibilities of formal education at university undergraduate, graduate and postgraduate levels of study, i.e. at level 6 and 7 of the European Qualifications Framework, through a comparative analysis of study programs and courses in which forensic accounting competencies are acquired on a sample of selected countries. In order to achieve data comparability between countries, all programs are categorized into two groups in accordance with the European Qualifications Framework:

- undergraduate level (level 6 of the European qualification framework – EQF 6) where students gain a bachelor's degree
- graduate level (level 7 of the European qualification framework – EQF 7) where all graduate, postgraduate specialist and master programs are included.

By studying previous research in this area, a lack of comparative research was noticed, especially in the countries of Southeastern Europe. As part of the research, the courses from the field of forensic accounting in the following countries were analyzed: Croatia, Slovenia, Bosnia and Herzegovina and Montenegro. The research aimed to achieve the following goals:

- to determine the occurrence of courses which provide formal competences, i.e. knowledge and skills in the field of forensic accounting;
- analyze the differences in formal education in the field of forensic accounting between the countries involved in the research;
- determine whether there are differences in the inclusion of forensic accounting courses in study programs depending on the level of study: undergraduate or graduate/postgraduate level.

The research carried out in the framework of this paper enables the deepening of knowledge about formal education in the field of forensic accounting and gives impetus to the development of this specific area within the accounting profession. An insight into the level of development and compliance of formal education in forensic accounting in selected countries is provided. Also, the authors point out the necessity of further development of this profession and implementation of courses related to forensic accounting at different study levels. Novak et al. (2021, p. 246) state how "accounting education should constantly follow changes in the accounting profession in order to successfully respond to market needs". Furthermore, they state how "in that sense the role of higher education institutions that provide formal education is significant" (Novak et al., 2021, p. 246) and in order to follow and respond to the labor market need accounting curricula should be adjusted and changed.

The paper is structured as follows. After the introductory part, an overview of papers relevant in the context of processing the topic and conducting research is given. Furthermore, the research methodology and research results are presented. In the last part of the paper, concluding considerations and suggestions for future research are presented.

## **Literature review**

Education, academic as well as professional, is one of the essential prerequisites for development of every profession, including forensic accounting. “A university education should lay the foundations for a lifelong commitment by graduates to learning and professional development (West, 1998, as cited in Kavanagh & Drennan, 2008, p. 2). Though this part of research authors present some of the main papers that were the guiding thread for research conducted within this paper. Fajardo (2014) performed interesting research where he analyzed why forensic accounting is expanding. He states how “with the growing complexity of the business environment and the growing number of business related investigations, forensic accounting professionals are increasingly asked to assist in the investigation of financial and business related issues” (Fajardo, 2014, p. 16).

Bartulović (2021) analyzed state and development of forensic accounting in Croatia. Author presents, among other, occupational standard and qualification standard that were developed for the profession of forensic accountant in Croatia as well as possibilities for higher education in this area. She concludes how “significant steps have been taken in the affirmation of this field of accounting in the last decade” (Bartulović, 2021, p. 50) but “there is additional space for the creation of new educational programs in this area” (Bartulović, 2021, p. 60). Development of forensic accounting profession in Bosnia and Herzegovina was analyzed by Veledar, Bašić & Čolpa (2022). In their work authors tried to determine the state and perspectives of forensic accounting in Bosnia and Herzegovina. According to research results there is a lack of formal education in forensic accounting and authors suggest including courses from forensic accounting in higher education but also propose teaching forensic accounting on final grades of secondary schools. Author state how “the main thing in the development of forensic accounting in Bosnia and Herzegovina would be establishment of study programs in forensic accounting” (Veledar et al., 2022, p. 14).

Bašić et al. (2022) performed comparative analysis of education of forensic accountants in Bosnia and Herzegovina and surrounding countries. They analyzed ten elements that represent preconditions for the development of forensic accounting profession. Among these elements were also data related to academic education at first level of higher education and on second and third level of higher education. Their results indicate how Croatia has the highest level of development of profession while the lowest level of development was detected for the Republic of Serbia. Authors conclude how “obvious slow development of this profession in the region, primarily due to the lack of support through certain legal solutions, indicates resistance to the development of this profession” (Bašić et al., 2022, p. 68).

## **Research methodology and data**

In order to analyze the inclusion of content from forensic accounting in study programs at higher education institutions, study programs at selected faculties and business schools in the following countries were analyzed: Slovenia, Croatia, Bosnia and Herzegovina and Montenegro. In the first part of the research, the authors analyzed the websites and study programs of economic faculties and related institutions (such as University departments) in which courses related to forensic accounting and fraud detection were found. Therefore, the population of the research consisted of the programs of higher education institutions from which it was possible to determine that they provide education in the field of forensic accounting, and the sampling frame itself consisted of the websites of those colleges and business schools that

were found to offer a complete program or course related to forensic accounting. After the faculties and business schools that provide education and forensic accounting were determined, a content analysis of the programs and course syllabi that are the subject of this research was performed.

The main goal of the research was to determine whether formal education in the field of forensic accounting is provided, whether there are differences in the occurrence of courses between the observed countries, and whether there are differences in the representation of courses in the field of forensic accounting at the undergraduate and graduate/postgraduate level of study. As already mentioned the method of content analysis of web pages was used. Authors used this method in order to analyze publicly available study programs of the faculties and the syllabi of the courses which enable acquiring knowledge and skills in the field of forensic accounting. The number of analyzed faculties and business schools by country is shown in table 1.

*Table 1: Analysed faculties and business schools*

No.	Country	Number of analysed faculties and business schools
1.	Slovenia	2
2.	Croatia	5
3.	Bosnia and Herzegovina	3
4.	Montenegro	1
Total		11

*Source: authors' work.*

From the above table, it can be concluded that the largest number of higher education institutions where forensic accounting courses were found is in the Republic of Croatia where 5 institutions were detected. Afterwards follows Bosnia and Herzegovina with 3 institutions that provide formal education in this area and in Slovenia programs were found at two higher education institutions. In Montenegro, only one higher education institution that provides education in the field of forensic accounting was found through this research. When the institutions where formal education in the area of forensic accounting is provided were determined, further information that were collected were related to the name of the faculty/business school, the level of study at which the course is provided and the name of the course. When analyzing programs at different higher institutions, courses named Forensic Accounting, Fraud Detection, Fraud and their Prevention, Forensic Investigations in Accounting and similar titles covering the acquisition of competencies in the field of forensic accounting were searched. Courses through which forensic accounting is studied are analyzed at undergraduate (level 6), graduate and postgraduate levels (level 7). The results of conducted analysis are presented below.

## **Research results**

A total of 24 different courses related to forensic accounting were found within the analyzed study programs. Of the total number of courses included in this research, four courses are taught at the undergraduate level of study, that is, at level 6 of the European Qualifications Framework. The other 20 courses are taught at level 7, where it should be noted that 14 subjects were developed within the framework of the graduate level study programs and six subjects were integrated within the postgraduate specialist studies program.

Table 2: Analysed courses according to the study level

Study level	Number of analysed courses
Undergraduate programs – level 6	4
Graduate/postgraduate programs - level 7	20
Total	24

Source: authors' work.

Based on the above mentioned, it can be concluded that there are significant differences in the inclusion of forensic accounting courses in study programs depending on the level of study. Namely, the performed analysis showed that courses from forensic accounting are much more integrated into programs at the 7th level of the European Qualification Framework than at the 6th level. These results are in line with expectations since these are extremely demanding subjects that require a whole range of different prior knowledge and are more often included in study programs at higher study levels. Table 3 shows the names of the courses offered at the undergraduate level of the study.

Table 3: Course titles at undergraduate level of study (level 6)

Country	Institution	Course title
Slovenia	Collage of Accounting	Introduction to forensic accounting
Croatia	University Department of Forensic Sciences	Corporate frauds
Bosnia and Herzegovina	School of Economics and Business Sarajevo	Forensic accounting
Montenegro	Faculty of Economics Podgorica	Forensic accounting

Source: authors' work.

Table 4 lists the names of courses provided at level 7 of the European qualification framework. In a large number of cases, the course is called Forensic Accounting (11 courses under this title were found), and the other courses are: Frauds and Fraud prevention, Forensic investigation methods, Corporate frauds: prevention and detection, Forensic accounting and investigations, frauds and computer crime, Forensic accounting: professional and practical challenges and Fraud prevention, risk assessment and investigation, data analysis and protection. It should be noted how some courses are incorporated twice due to the fact that they are included in the study program as an elective or mandatory course or they are part of a different study program at the same institution.

Table 4: Course titles at graduate/specialist level of study (level 7)

Country	Institution	Course title
Slovenia	Collage of Accounting	Frauds and fraud prevention
Slovenia	Collage of Accounting	Forensic accounting
Slovenia	Collage of Accounting	Forensic investigation methods
Slovenia	Faculty of Economics and Business, University if Maribor	Forensic accounting
Croatia	University Department of Forensic Sciences	Corporate frauds: prevention and detection
Croatia	University Department of Forensic Sciences	Forensic accounting 1
Croatia	University Department of Forensic Sciences	Forensic accounting 2
Croatia	University Department of Professional Studies	Forensic accounting
Croatia	Faculty of Economics and business, University of Rijeka	Forensic accounting

Country	Institution	Course title
Croatia	Faculty of Economics and Business, University of Osijek	Forensic accounting
Croatia	Faculty of Economics and Tourism "Dr. Mijo Mirković"	Forensic accounting (mandatory course)
Croatia	Faculty of Economics and Tourism "Dr. Mijo Mirković"	Forensic accounting (elective course)
Bosnia and Herzegovina	Faculty of Economics, University of Mostar	Forensic accounting
Bosnia and Herzegovina	School of Economics and Business Sarajevo	Forensic accounting and investigations, frauds and computer crime (on master study)
Bosnia and Herzegovina	School of Economics and Business Sarajevo	Forensic accounting: professional and practical challenges (on master study)
Bosnia and Herzegovina	School of Economics and Business Sarajevo	Fraud prevention, risk assessment and investigation, data analysis and protection (on master study)
Bosnia and Herzegovina	School of Economics and Business Sarajevo	Forensic accounting and investigations, frauds and computer crime (on specialist study)
Bosnia and Herzegovina	School of Economics and Business Sarajevo	Forensic accounting: professional and practical challenges (on specialist study)
Bosnia and Herzegovina	School of Economics and Business Sarajevo	Fraud prevention, risk assessment and investigation, data analysis and protection (on specialist study)
Bosnia and Herzegovina	Faculty of Economics, University of Banja Luka	Forensic accounting

Source: authors' work.

From data presented in the above table it can be noted how through this research no courses related to forensic accounting on master or specialist level (level 7) were found in Montenegro. Also, on undergraduate level only one course was detected for this country. So it can be concluded that based on including courses from the area of forensic accounting in study programs at Universities, Montenegro has the lowest level on education on this issue and there is area for significant improvement in this area. When observing both analyzed levels of studies five courses were found in Slovenia and nine courses in Croatia and in Bosnia and Herzegovina.

Table 5: Representation of courses from the field of Forensic Accounting by countries

No.	Country	Number of courses
1	Slovenia	5
2	Croatia	9
3	Bosnia and Herzegovina	9
4	Montenegro	1
	Total	24

Source: authors' work.

Based on all above-mentioned it can be concluded that there are differences in the observed level of development of forensic accounting profession among analyzed countries. Results are in line with those presented by Bašić et al (2022) who also detected differences in the level of development of forensic accounting among countries analyzed in their research paper. They analyzed academic and professional education of forensic accountant in following countries: Croatia, Montenegro, Bosnia and Herzegovina and Republic of Serbia. They pointed out how "the obvious slow development of this profession in the region, primarily due to the lack of support through certain legal solutions, indicates resistance to the development of this

profession” (Bašić et al, 2022, p. 68). Also Veleđar et al. (2022) as a result of analysis of state and perspective of forensic accounting in Bosnia and Herzegovina concluded how there exist a lack of formal education in the area of forensic accounting and highlight the need for inclusion courses related to forensic accounting in programs at higher levels of education and also in final grades of secondary schools.

## **Conclusion**

As a response to distrust in the system of financial reporting and auditing after the corporate scandals that occurred in the early 2000s, regulation in the field of accounting and auditing professions was tightened. At the same time, there was also an increase in demand for new services in the area of the accounting profession. Namely, corporate failures gave impetus to the development of the profession of forensic accountants as specialists trained to detect and prevent fraud. The market needs experts who can provide a wide range of different services in the field of forensic accounting, and to provide these complex services, they need specific and interdisciplinary knowledge and skills. Stronger education of financial accounting forensics and development of this profession was therefore stimulated by corporate scandals from the beginning of the 2000s, but recent events in which corporations are not deprived and protected from fraud additionally confirm the need for training experts in the field of forensic accounting. Development of this profession is of exceptional importance for developing countries, given the fact that these countries are characterized by greater exposure to the phenomenon of the gray economy, corruption and other forms of business fraud.

Forensic accounting, as a relatively young discipline that is in the phase of development and affirmation in all the countries analyzed in this paper, certainly represents one of the main mechanisms in preventing and detecting fraud, fighting corruption and other forms of white-collar crime. The formal education of experts in a certain field certainly represents one of the fundamental indicators of the development of a certain profession. Within research conducted in this paper, the authors emphasized the analysis of formal education in the field of forensic accounting in four countries: Slovenia, Croatia, Bosnia and Herzegovina, and Montenegro. The research results show that formal education in the field of forensic accounting in the observed countries is still at a relatively low levels and there is additional space for the development and affirmation of this profession. Namely, although courses taught at higher education institutions were found in all four countries, their representation is still relatively small and it can be concluded that the programs are slowly adapting to the demands of the labor market and changes in the accounting profession. Thus, for example, in Montenegro, only one course was registered in which knowledge and skills from the area of forensic accounting are studied. Of course, when interpreting the research results, it is necessary to take into account the limitations of the research and the issue of the up-dating the websites of the higher education institutions that were reviewed and the availability of content in English. Certainly, the conclusion that emerges is that the development of the profession of forensic accountants in the observed countries is quite slow and that joint, synergic action of all actors in this area is needed in order to encourage a stronger development and affirmation of this profession. Joint action of all interested parties, combination of practical experience and theoretical knowledge as well as mutual communication and exchanging best practices can contribute to rising level of fraud awareness and finally affect the reduction of business frauds, corruption and all other types of white collar crime in the observed countries.



The research carried out in the framework of this paper enables the deepening of knowledge about formal education in the field of forensic accounting and gives impetus to the development of this specific area within the accounting profession. It provides an insight into the level of compliance of formal education in forensic accounting in selected countries and into the possibilities for further development and implementation of courses related to forensic accounting at different levels of study. Given that the research results show that there are differences in the development of formal education at the academic level, future research can be focused on determining the causes of these differences, as well as on a more detailed analysis of the course contents themselves and the learning outcomes that are acquired in individual countries, all with the aim of affirming and further development of forensic accounting education in the observed countries.

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