

Article

Empirical Evidence on the Development and Digitalization of the Accounting and Finance Profession in Europe

Liliana Ionescu-Feleagă , Voicu D. Dragomir * , Ștefan Bunea , Oana Cristina Stoica 
and Laura-Eugenia-Lavinia Barna 

Department of Accounting and Audit, Faculty of Accounting and Management Information Systems,
Bucharest University of Economic Studies, 010374 Bucharest, Romania

* Correspondence: voicu.dragomir@cig.ase.ro

Abstract: The objective of this research was to evaluate the development and digitalization of professional services in the field of accounting and finance, as well as to calculate and compare several indicators of the development of the profession in each European country. We also sought to identify the factors that drive the development of the accounting and finance profession at the international level. We collected rich information on 337 professional associations in 40 countries in Europe. Using this dataset, 20 accounting and finance services and 14 membership services and benefits provided by professional associations were identified. Digitalization of the profession is a prominent membership service, but also a characteristic of country competitiveness. The results of the intergroup analysis showed that high-income countries have a significantly larger number of professional associations and services compared to middle-income countries. Furthermore, the accounting and finance profession in high-income countries covers a larger number of accounting and membership services. The size of the population and the competitiveness of the national economy are the main predictors of the development and digitalization of the accounting and finance profession in a country. This research has implications for professional associations and national regulators in reducing disparities between European countries on the matter of accounting education and service quality. The scale of this research can provide institutional actors with a holistic perspective on the accounting and finance profession at the national and international level.

Keywords: accounting profession; professional associations; financial experts; European countries; comparative analysis; digitalization of liberal professions



Citation: Ionescu-Feleagă, L.; Dragomir, V.D.; Bunea, Ș.; Stoica, O.C.; Barna, L.-E.-L. Empirical Evidence on the Development and Digitalization of the Accounting and Finance Profession in Europe. *Electronics* **2022**, *11*, 3970. <https://doi.org/10.3390/electronics11233970>

Academic Editors: Anca Antoaneta Vărzaru, Claudiu George Bocean, Madalina Giorgia Mangra and Dalia Simion

Received: 14 November 2022

Accepted: 28 November 2022

Published: 30 November 2022

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

The accounting and finance profession is carried out through professional services provided by individuals and companies to a large group of beneficiaries. This profession comprises a mosaic of tasks, competencies, objectives, institutional arrangements, and responsibilities [1]. A professional accountant must not only know in detail accounting techniques, legislative aspects, and taxation issues, but also know how to use the technologies necessary for financial analysis or managerial accounting [2,3]. A finance expert has advanced knowledge of treasury management, portfolio development, and company valuation [4]. Audit professionals can work as statutory auditors, internal auditors, controllers, risk managers, forensic accountants, or state auditors [5]. Professional accountants and finance experts constantly develop their skills, digital competencies, and ethical reasoning to be able to perform their activities and provide high-quality services [6]. The empirical identification of the professional services offered by accounting and financial experts is one of the goals of the present paper.

The accounting and finance profession is self-regulated through professional associations [7]. A professional body (the professional association) is an intermediary that

maintains the oversight of membership, knowledge, skills, conduct, practice, and standards of that profession [8,9]. These professional associations assume at least the following objectives: efficient management of the association's resources; ensuring initial training, certification, and continuous professional development of members; maintaining the quality of services provided by members; and serving the public interest [10]. Professional associations are the gatekeepers of the profession because they establish and enforce collective standards for appropriate behavior [11]. They also provide guarantees regarding the quality of professional services. Therefore, accounting can claim similar status to other applied professions, such as medicine, education, engineering, and law [12]. Investigating the complexity of membership services and benefits offered by professional bodies is crucial to obtaining a comprehensive overview of institutional arrangements at the national and international level [13].

Digitalization contributes to increasing the efficiency of accounting jobs and the accuracy of the data processed and presented in the financial statements and audit reports [14]. The advantages of digitalization in the accounting profession are related to efficient communication of results and information between departments, faster access to documents, and faster data processing within information systems. Accountants and auditors are facing an alert rhythm of digitalization, which could have an impact on their jobs, even for mundane tasks such as data entry or bookkeeping [15]. As the future of the accounting profession depends on digital technology, some professional associations offer a wide range of digital training and qualifications to support their members in developing skills throughout their careers. In addition, professional bodies can provide their members with different sets of digital tools to carry out their activities. Using these tools (such as electronic invoices, automatic verification of records, or blockchain validation), companies can save time and money. With technology being used to automate repetitive and mundane tasks and processes [16], accountants will be able to spend more time engaging and collaborating with stakeholders and analyzing financial information.

The first objective of this article is to identify the specific professional services of the accounting and finance profession and to enumerate the membership services and benefits offered by professional associations. The second objective of this research is to measure the variation in the complexity of the accounting and finance profession in European countries. The third objective of the paper is to identify predictors of the development of the accounting and finance profession by proposing and estimating an econometric model with macroeconomic and demographic variables. To achieve these objectives, the present contribution proposes a comparative and statistical analysis based on a scoring method that can assess the degree of integration and maturity of the profession. The scoring method is applied to a wide range of specialized services (related to accounting, auditing, and finance) and membership services and benefits (provided by professional associations). The accounting and finance profession exists in a complex institutional environment, and the present article is the first to measure the complexity of this phenomenon and investigate its factors.

The paper is organized as follows. The review of the literature discusses the main functions of professional associations and their participation in serving the public interest. Two hypotheses are laid out referring to the comparability of the accounting profession in European countries and the factors of the development of the accounting profession. The methodology describes two types of analysis: content analysis on professional services and statistical analysis based on various indicators at the country level. The results comprise the presentation of comparative evidence regarding the roles of professional associations in 40 European countries. Econometric analysis is used to identify the main predictors of the development of the accounting profession in a country. The discussion and conclusions outline the European landscape on the matter of professional associations in the field of accounting and finance. Implications for accounting education and professional development are also included in the final part of the paper.

2. Literature Review

The accounting and finance profession can be described as a ‘contract between professional groups and society’ [17], providing an image of ethics, confidentiality, and responsibility applicable to economic transactions [18]. The main functions of professional associations in the accounting field are to improve the transparency, efficiency, effectiveness, and accountability of businesses; protect the public interest; disseminate best practices; and increase the value, relevance, and reputation of the accounting and finance profession [19]. The stakeholders are clients, creditors, investors, employees, employers, the business community, and other interested parties who rely on the objectivity and integrity of accounting professionals. The attitudes and behaviors of accounting and finance professionals significantly affect the functioning of entities they work for, but also society in general. Internalization of corporate governance practices facilitates the transparency and credibility of professional associations’ actions in the public interest [20].

Each service of the accounting and finance profession is standardized and/or regulated to some extent. At the European level, there is a wide variety of solutions for standardizing and regulating professional services. An institutional framework can be implemented through (1) self-regulation, when the professional body has the responsibility to regulate a set of accounting services; (2) external regulation, when the profession is regulated by a government agency; or (3) co-regulation, a mix of self-regulation and external regulation [21]. The need to regulate the accounting and finance profession also depends on the level of standardization of a particular professional service.

Over time, there has been a tendency to allocate certain skills to the area of expertise of specific professional bodies [22]. Therefore, professionals define their skills by referring to their role (chartered accountant, statutory auditor, internal auditor, tax consultant, evaluator, court expert, etc.). These roles are perceived as expected behavioral patterns [23]. Reality confirms that professionals today refer to the competencies of their tasks rather than to the role assigned in the jurisdiction of the professional body to which they belong [24]. The legal and institutional framework for the functioning of the accounting and finance profession must ensure not only the quality of services but also equal opportunities and the mobility of professionals in the European space. Recognition of skills and the right to work in a jurisdiction with a significantly different legal and institutional framework than the country of origin can become difficult, if not impossible [25].

In some countries, the right to free practice is conditional on membership in a professional association. Regulations are essential in the accounting profession, because accounting procedures are complex and involve the processing of a large volume of confidential information [26]. In other countries, the accounting profession is self-regulating and the right to free practice may or may not be conditioned by membership. Mixed regulation means that certain activities are publicly regulated, and others are regulated by the professional body. As a rule, activities related to obtaining membership are publicly regulated, and those related to the management of organization resources are self-regulated. The topic of public interest is used by professional associations to justify the need for new regulations, defend their reputation in times of crisis, and reduce their exposure to the risk of failure related to professional conduct [27,28]. Accounting bodies seek to develop lobby and control mechanisms to ensure that their members are not exposed to reputational damage, under the umbrella of serving the public interest [29].

Professional accounting associations have a dualistic role in relation to their members. The first is the governance role; the second is representing the interests of the members [30]. In relation to the governance role, professional bodies regulate the activities of accountants and other financial professionals, with a focus on training, ethics, admission, and licensing [17]. Accounting requires specialized training and a high level of qualification, being a liberal profession with great social responsibility [31]. Professional accounting associations have an impact on shaping the identity of accounting and finance professionals [17]. Recent studies highlighted that the accounting and auditing profession was the most valuable resource in the IFRS adoption process in Central and Eastern European countries [32]. The

role of accounting and finance associations is fulfilled through the adoption of international standards, the professional code of conduct, extensive training, regular examinations, and the development of community spirit [33]. Consequently, professional associations try to design a positive image for accountants to attract the best members and to support and improve the reputation of the profession [18].

The credibility of financial reporting and auditing is a key criterion in assessing how professional bodies and specialized companies seek to serve the public interest. The responses of audit firms to the Public Company Accounting Oversight Board (PCAOB) inspection reports are either to comply with the recommendations or to deny the existence of significant problems and to reject the recommendations. Studies confirm that resistance to PCAOB compliance is strongly perceived by investors, but also by other stakeholders, as a disregard for the public interest. The credibility of future audit opinions can be greatly diminished if auditors refuse to comply with the PCAOB recommendations [34].

The accounting and finance profession has been perceived as a conservative profession [35], where ethical behavior and professionalism are prominent [18]. Companies providing accounting services often rely on a system of reporting unethical behavior (whistleblowing), which is a component of their corporate governance system. If this system is not robust, the profession's role in securing the public interest would not be fulfilled. The code of ethics (or code of conduct) is an instrument of the corporate governance system comprising a set of rules and principles that protect the integrity and reputation of an organization or profession [36]. However, reporting violations of international standards is more frequent than reporting violations of professional codes of ethics [37]. Therefore, international standards and local codes of ethical conduct are complementary instruments in the accounting profession [38].

Technical logic and commercial logic coexist in large multinational audit firms, but the commercial one is privileged in relation to the technical one. Those professionals who embody the logic of the business are at the top of the hierarchy of the organization (in the position of partner), while those who pursue the professional technical component do not have much chance to progress beyond the level of manager. This reality is surprising because technical profession logic is closely related to ensuring public interest [39]. For this reason, regulators from the United States, the U.K., and the EU have issued rules to improve the transparency of audit firms. Most importantly, the IAASB conceptual framework for audit quality states that financial rewards should not affect the quality of the audit mission [40].

The perception of accounting professionals regarding the ethical attributes of their employers or clients is a significant factor in ensuring a high-quality professional service. Employees strongly dedicated to the profession report a lower level of organizational conflict and a higher level of effective and normative engagement if they feel that their company is more focused on serving the public interest [41]. Due to their training, accounting professionals play an important role in creating and maintaining an ethical environment within the organization for which they work. A strong orientation to serving the public interest and a high frequency of mentorship engagements are associated with a stronger perception of a positive ethical environment in the workplace [42].

Professional accountants must have a solid foundation of digital and technical skills, and 'their advancement is based on the demonstrated ability to apply those skills to the requirements of clients' [43]. They should also keep their skills and knowledge as up to date as possible. These competencies have the role of 'enabling professional accountants to successfully use the knowledge gained through education' [44]. According to Marais et al. [45], 'professional development programs have to be active, constructive, and problem-oriented'. Continuous professional development is the process of learning and development, but also maintaining the professional skills necessary to increase on-the-job performance [46]. Furthermore, the continuous professional development of accountants and finance experts promotes the formation of high-quality corporate reporting [47]. In

countries with developed economies and mature financial markets, specialists are needed to demonstrate a combination of financial skills [48].

Professional development aims to increase the accuracy and reliability of corporate financial and management reporting and can be ensured only through training programs [49]. The professional development process can be considered as a useful tool for identifying the competencies that an accountant should have. Thus, pre-qualifications have the role of substantiating information in the accounting field, while post-qualifications ensure an essential level of professional development [44]. In this respect, another significant function of professional associations is the development of relationships with different universities by validating and integrating their educational programs, providing research funding, and supporting professional development activities. However, universities should not abdicate their responsibilities in establishing syllabi or course content to professional bodies [50].

Organizational reporting has expanded beyond traditional financial reporting. Accounting professionals and market analysts must identify and evaluate non-financial capital (manufactured, intellectual, human, relational, and natural capital) in relation to the organization's objectives and corporate governance [51,52]. Accounting professionals should be able to understand the perspectives of multiple stakeholders for different types of organizations. Another important topic is the role of management accounting, controlling, risk management, and digital innovations in achieving information integration and reliability. The implementation of European Directive 95/2014 has changed the reporting landscape for larger companies in the European Union, and professionals should also extend their knowledge in this area [53]. Furthermore, many organizations (for-profit or non-profit, as well as government organizations) now report their contributions to the Sustainable Development Goals of the United Nations, further extending the work of the accounting professional [54].

The present article is a comparative international study in the same line of research as Hoppe et al. [55]. Our paper investigates the roles and services of professional associations related to the accounting profession. Therefore, the broad research question is as follows: To what extent are European countries similar in terms of the development of the accounting and finance profession? A more specific research question is the following: Which are the country-level factors in the development of the accounting profession?

3. Materials and Methods

3.1. Data Collection

To identify the professional associations in Europe, we used the partnership lists of several European and international federations enumerated below:

- European associations: Accountancy Europe, CFE Tax Advisers Europe, European Federation of Financial Analysts Society (EFFAS), European Accounting Association (EAA), European Confederation of Institutes of Internal Auditing (ECIIA), European Group of Valuers' Associations (TEGOVA), the European Association of Corporate Treasurers (EACT), the Federation of European Risk Management Associations (FERMA), the European Organization of Supreme Audit Institutions (EUROSAI).
- International federations: International Federation of Accountants (IFAC) Global Impact Map, International Forum of Independent Audit Regulators (IFIAR), Global Accounting Alliance (GAA), International Association of Restructuring, Insolvency & Bankruptcy Professionals (INSOL), International Organization of Supreme Audit Institutions (INTOSAI), International Group of Treasury Associations (IGTA), Chartered Global Management Accountant (CGMA).

We also used partnership lists published by the Institute of Chartered Accountants in England and Wales (ICAEW) and of each national association to cross-check the data. Furthermore, we searched for professional associations on Google by simply typing 'Chartered Accountants (or other accounting/finance service) country X', first in English and then in the language of the respective country. This procedure helped us ensure that we did not miss any professional body that is not a member of an international federation.

The existence of other relevant associations was verified on the ‘Partnerships’ page on websites of already-identified associations in each country. This is a type of snowball sampling that ensures maximum coverage. We also checked the data collected using the European Union registry of regulated professions by country for the following entries: accountant, statutory auditor, auditor (other), environmental auditor, financial advisor, and accounting technician. Although not specifically a professional association, we also included the Supreme Audit institution of each country, which mostly offers specialized guidance and audit services to state organizations.

Data collected from the websites of accounting associations are the following:

- The services provided by accounting professionals to other stakeholders, especially their clients (accounting services); and
- The services and benefits provided by accounting associations to their members (professional membership services).

A simplified model of these relationships is described in Figure 1. The model also refers to the public service duty the professional accountant has in providing accurate, relevant, and timely information to the government and the public.

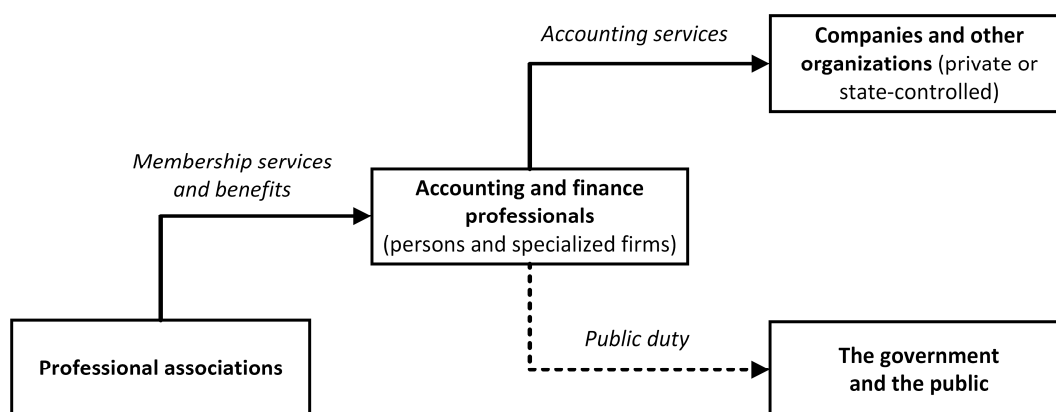


Figure 1. The relationship between professional associations, accounting professionals, and other stakeholders. Source: Authors.

The methodology of choice was content analysis [56,57]. This technique is used to examine the information contained on the websites of professional associations in a systematic way [58]. The unit of analysis was each entire website, while the required information could be found in the following sections: organizational presentation; organizational mission and charter; member services and benefits; training and mentoring; conferences and workshops; exams and certification; procedures and ethics; news and events; publications and research; members’ area; and collaborations and international relations. We collected the data into predefined categories [52,59] for the purpose of international comparisons.

In the first stage of data collection (the pilot study), we analyzed professional associations in five countries that are the largest European economies and have numerous accounting associations. The selected countries are the U.K., France, Germany, Spain, and Italy. Each country was analyzed by one author and verified by another. We started with a short list of accounting services and membership services, and we further expanded the list with each new element found, until no new elements were discovered. The identification of each service was straightforward because their denominations are standard. The final codebook includes 20 accounting services and 14 membership services.

Except for the U.K. and Ireland, the websites were opened in the native language of the respective country and translated to English using the Google Translate tool in the Chrome browser. This procedure ensured that we had access to the maximum amount of information. Each service was coded as 1 = present or 0 = absent for each association. The denominations of accounting services are in line with those used by international

federations of professional associations. For accounting services which are not officially recognized (e.g., integrated reporting), an umbrella term was used.

In the second stage of data collection, all European countries with a population of more than 100,000 people were analyzed. The entire sample consisted of 40 countries, except Belarus (which is excluded from IFAC's Global Impact Map). The classification 'European countries' was cross-checked between Worldometer [60] and the CIA World Factbook [61]. The total number of professional associations in Europe is 337. Associations that have not had any activity in the past three years (as disclosed on their website) were eliminated from the list. Data were collected during the period July–October 2021 by three senior researchers and two Ph.D. students.

In an Excel datasheet, professional associations were grouped by country, and each type of accounting service and professional membership service was assigned a column. The binary coding 1-0 was accompanied by a link to the relevant website page or a note with an excerpt from the website [53]. This way, each code could be rechecked for accuracy. The data collected by one experienced researcher were verified by another through random sampling, and the data collected by young researchers were thoroughly verified by an experienced researcher. Multiple cross-checks and a clear list of codes ensured the reliability of the data collection process.

For each service instance, the coded websites were scanned for useful information, especially in the mission statements. A brief description of each service was extracted in a separate file. At this stage, another member of the team performed a second coding verification. As expected, descriptions of the same type of service would overlap between associations. For professional accounting services, the necessary skills and knowledge were highlighted, as well as the type of activities performed by the people or companies that provide these services. With respect to membership services and benefits, the role and importance of each type of service was highlighted. Section 4 emphasizes the diversity and complexity of this professional field, as well as the rich opportunities and benefits that accounting professionals may enjoy.

3.2. Proposed Indicators for the Comparative Analysis

A quantitative assessment of the accounting and finance profession in different countries demands the creation of several indicators, presented in Table 1. In the formulas below, the total number of accounting services and the total number of professional membership services refer to the entire sample of 40 countries. This method of calculation ensures a comparative international perspective at the European level. The following ratios are an original contribution to the present paper.

The degree of accounting service coverage (ASC) is the proportion of services recognized by at least one association in a country. The indicator has an upper limit of 1. It is calculated as the number of accounting and finance services recognized by at least one association in a country, divided by the total number of services (20, as indicated in Section 4).

The degree of overlap in professional coverage (PCO) is a country-specific indicator that receives a higher value if more associations in one country address the same group of professionals or regulate the same service. The numerator counts the overlapping services by adding 1 for each service recognized by a professional association in a country. The PCO indicator is calculated as the total number of services recognized by all associations in a country, divided by the number of professional associations in a country (as indicated in Table A1).

The complexity of accounting services (CAS) is a function of the degree of service coverage in a country (ASC) and the degree of overlap in professional coverage (PCO). A higher figure means that a larger proportion of services is recognized in a country and that these services are addressed by several professional associations at the same time. CAS is calculated as ASC multiplied by PCO.

Table 1. List of variables.

Abbreviation	Indicator	Source
<i>orgcount</i>	Total number of professional associations in European countries	Authors' calculation
<i>accserv</i>	Total number of accounting services in European countries	Authors' calculation
<i>ASC</i>	The degree of accounting service coverage	Authors' calculation
<i>PCO</i>	The degree of overlap in professional coverage	Authors' calculation
<i>CAS</i>	The complexity of accounting services	Authors' calculation
<i>MSC</i>	The membership service coverage	Authors' calculation
<i>EMB</i>	The extent of membership benefit and services	Authors' calculation
<i>APM</i>	The average provision of membership services and benefits	Authors' calculation
<i>DAP</i>	The development of the accounting profession in a country	Authors' calculation
<i>Region</i>	The region from Europe where the country belongs	The CIA World Factbook
<i>Gdppc</i>	Real GDP per capita (2019) in USD	The CIA World Factbook
<i>Pop</i>	Population as of July 2021	The CIA World Factbook
<i>GCI</i>	The Global Competitiveness Index 4.0 2019	World Economic Forum
<i>ECI</i>	Economic Complexity Index (Country complexity ranking)	Harvard University
<i>WDCR</i>	World Digital Competitiveness Ranking 2022	IMD.org
<i>WBC</i>	World Bank country classification by income (1 for high-income countries, 0 for middle-income countries)	World Bank
<i>EUR</i>	The currency of the country (1 if EUR, 0 otherwise)	The CIA World Factbook

Source: Authors.

Membership service coverage (*MSC*) is the proportion of membership services provided by at least one association in a country. The indicator has an upper limit of 1. It is calculated as the number of membership services provided by at least one association in a country, divided by the total number of professional membership services (14, as indicated in Section 4).

The extent of membership benefits and services (*EMB*) would be higher if more associations in a country provided the same professional membership services to their members. It is calculated as the sum of all instances of membership services in a country, divided by the total number of professional membership services.

The average provision of membership services and benefits (*APM*) is an indicator that aims to rescale the extent of membership benefits (*EMB*) by considering the number of professional associations in each country. This indicator, which has a theoretical upper limit of 1, is an average of the proportion of accounting and finance associations that offer a specific membership service. It is calculated as *EMB* divided by the number of professional associations in a country (as indicated in Table A1).

The development of the accountancy profession in a country (*DAP*) is the sum of the score of the complexity of accounting and finance services (*CAS*) and the score of the extent of membership benefits and services (*EMB*). The calculated value would be higher if there are more overlapping services covered by several professional associations and if these professional bodies offer a wider range of benefits to their members. For this indicator, we use the following formula: $DAP = CAS + EMB$.

3.3. Group Analysis on Country Classifications

We used three country classifications proposed by Bătae et al. [62] to check for significant differences between European countries included in our database. The classifications are eurozone versus non-eurozone countries, the geographical classification from the CIA World Factbook [61], and the classification according to the World Bank [63] in high-income countries and middle-income countries. On the geographical criterion, European countries were considered part of Southern Europe (i.e., the southwestern, southern, and southeastern regions—15 countries), Central–Eastern Europe (13 countries), and Western–Northern Europe (12 countries). The real GDP per capita in USD (2019 estimate) and the population (2021 data) were collected from the CIA World Factbook (variable *gdppc*). The Economic Complexity Index (variable *ECI*) was collected from the Atlas of Economic Complexity published by Harvard University [64].

The Global Competitiveness Index (variable *GCI*) is calculated by the World Economic Forum [65] and assesses the microeconomic and macroeconomic foundations of national competitiveness.

The capacity and readiness of economies to adopt and explore digital technologies are measured by the World Digital Competitiveness Ranking 2022 [66] published by the IMD World Competitiveness Center. These scores (variable *WDCR*) are in percentages and are based on a mixture of hard data and surveys from business and government executives. We use the latest version of this index.

We use independent samples *t*-tests and the one-way ANOVA test as methods for analyzing the average indicator scores per group of countries. The full list of countries and their classification is presented in Table A1. The hypothesis for the group analysis is the following:

H1: *There are significant differences between different categories of European countries regarding the average level of development of the accounting and finance profession.*

3.4. Regression Analysis: Model and Procedure

We considered the development of accounting and finance profession (*DAP*) as the dependent variable in a linear regression model. The profession responds to the necessities of the economic environment and provides specialized services to businesses and institutions, in line with the need for accounting convergence and international market integration. Population size, economic complexity, and country competitiveness are hypothesized as predictors of profession development. Therefore, the tested model is:

$$DAP = \beta_0 + \beta_1 gdppc + \beta_2 \ln(pop) + \beta_3 GCI + \beta_4 WBC + \beta_5 ECI \quad (1)$$

In Equation (1), *DAP* is the level of the development of the accounting and finance profession, *gdppc* is the gross domestic product per capita, $\ln(pop)$ is the natural logarithm of population size, *GCI* is the national score of the Global Competitiveness Index, *WBC* is the classification of each country by income (1 for high-income countries, 0 for middle-income countries), and *ECI* is the score of the Economic Complexity Index. The sources of these variables are enumerated in Table 1. As a robustness test, *WDCR* will be used instead of the *GCI* because it is a more specialized index of competitiveness.

We used the backwards stepwise procedure from SPSS v.26 to identify the significant predictors which are not affected by multicollinearity. We used the natural logarithm of the population to normalize the distribution. The tested hypothesis using regression analysis is the following:

H2: *The development of the accounting and finance profession is significantly influenced by country competitiveness.*

4. Results

The quantitative results comprise descriptive statistics of professional accounting services and membership benefits in European countries, as well as correlation analysis of country-level indicators. The statistical comparative analysis is focused on the contrast between the eurozone and non-eurozone countries, the three geographical regions within Europe, and the classification of European countries in high-income versus middle-income countries. The full list of countries and their calculated scores are presented in Table A1 in the Appendix A.

The descriptive statistics on professional services are presented in Table 2. The most common services found in European countries are Accounting and financial reporting, External audit, and Public sector accounting and audit, and the least common service is Mediation and Asset management. At the level of each country, the following services may be covered by several professional bodies: External audit, Accounting and financial reporting, Financial consultancy, and Real estate valuation. The following professional services are covered by few associations: Treasury management, Risk management, Infor-

mation systems audit and assurance, Forensic accounting and court testimony, and Asset management. Across Europe, the following professional services are the most common: External audit, Accounting and financial reporting, Public sector accounting and audit, Real estate valuation, and Financial consultancy. The following services are the least frequent in Europe in terms of professional coverage: Mediation, Asset management, Accounting for restructuring, mergers, acquisitions, or insolvency, and Information systems audit and assurance.

Table 2. Descriptive statistics of professional accounting services.

Type of Professional Services	Minimum Number per Countries	Maximum Number per Countries	Number of Countries Having This Service	Number of Associations Regulating This Service
Accounting and financial reporting	1	7	40	196
External audit	1	8	40	260
Tax accounting	0	6	29	112
Treasury management	0	2	22	57
Financial analysis	0	5	21	90
Financial consultancy	0	7	30	131
Management accounting	0	4	16	41
Internal audit	0	3	36	104
Controlling	0	5	28	96
Risk management	0	2	25	57
Compliance and corporate governance	0	5	25	90
Real estate valuation	0	8	32	132
Accounting for restructuring, mergers, acquisitions, or insolvency	0	3	14	45
Mediation	0	3	8	21
Information systems audit and assurance	0	2	19	50
Forensic accounting and court testimonies	0	2	22	52
Public sector accounting and auditing	1	4	40	135
Asset management	0	2	8	20
Accounting education	0	6	17	65
Non-financial communication and integrated reporting	0	4	17	77

Source: Authors.

Table 3 presents the descriptive statistics on professional membership services and benefits. The total number of membership services in European accounting associations is 2150. Most of them are represented by Collaborations, whereas the fewest membership services are linked to Legal protection. The most frequent membership benefit in a single country is the Forum in France. Membership services such as Collaborations, Training, Technical support, and Forum are found, on average, in the most countries from Europe, whilst membership services and benefits such as Legal protection, Digitalization, Job market, and Apprenticeship are found, on average, in the fewest European countries.

Table 3. Descriptive statistics regarding professional membership services.

Membership Services and Benefits	Total Number in Europe	Minimum Number/Country	Maximum Number/Country	Average Number of Membership Services/Country
Public registry	183	1	13	4.58
Training	232	1	16	5.80
Apprenticeship	90	0	8	2.25
Exams	172	1	14	4.30
Standard-setting	129	0	8	3.23
Quality control	199	2	12	4.98
Legal protection	63	0	8	1.58

Table 3. Cont.

Membership Services and Benefits	Total Number in Europe	Minimum Number/Country	Maximum Number/Country	Average Number of Membership Services/Country
Technical support	221	0	14	5.53
Research	141	0	12	3.53
Forum	211	0	19	5.28
Digitalization	70	0	10	1.75
Job market	77	0	11	1.93
Collaboration	269	2	13	6.73
Other benefits	93	0	8	2.33
TOTAL	2150	-	-	-

Source: Authors.

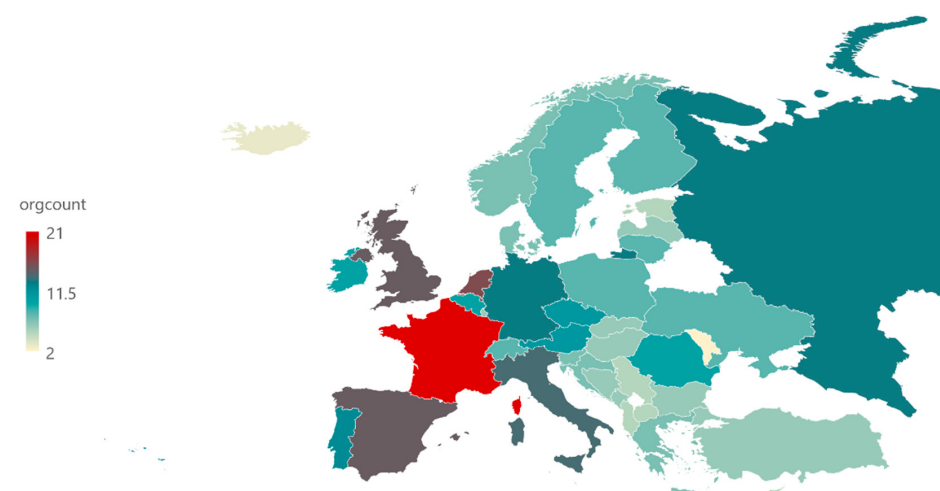
Table 4 provides the descriptive statistics of the variables used in different tests. The average count of professional bodies in European countries is 8.43, with a standard deviation of 3.95. The fewest accounting associations are in the Republic of Moldova, while the largest number of professional associations is in France.

Table 4. Descriptive statistics on comparative indicators for the entire sample of countries.

Indicator	Count	Mean	SD	Min. (Country)	Max. (Country)
<i>orgcount</i>	40	8.43	3.95	2.00	21.00 (France)
<i>accserv</i>	40	23.43	12.73	4.00	61.00 (U.K.)
<i>ASC</i>	40	0.61	0.21	0.15	0.95
<i>PCO</i>	40	2.72	0.86	0.56	4.50 (Switzerland)
<i>CAS</i>	40	1.75	0.94	0.30	3.66 (U.K.)
<i>MSC</i>	40	0.88	0.13	0.57	1.00
<i>EMB</i>	40	3.84	2.08	0.79	10.00 (U.K.)
<i>APM</i>	40	0.45	0.07	0.33	0.67 (U.K.)
<i>DAP</i>	40	5.59	2.70	1.09	13.66 (U.K.)
<i>gdppc</i>	40	40,586.00	20,429.95	12,810.00	113,900.00 (Luxembourg)
<i>population</i>	40	20,500,652	30,869,445	354,234	142,320,790 (Russia)
<i>GCI</i>	40	69.87	8.25	54.70	82.40 (The Netherlands)
<i>ECI</i>	36	0.98	0.63	−0.44	2.13 (Switzerland)
<i>WDCR</i>	31	69.83	15.86	44.36	100 (Denmark)

Source: Authors.

A map showing the number of professional associations per country (*orgcount*) in Europe is displayed in Figure 2.

Figure 2. A map of the number of professional associations (*orgcount*) in Europe. Source: Authors.

Regarding accounting services, the average of this indicator in European countries is 23.43, having a standard deviation of 12.73. The country where professional associations provide the fewest services is the Republic of Moldova. On the other hand, professional bodies from the United Kingdom (U.K.) address the largest number of accounting services in Europe. This result is not surprising, considering the involvement of this country in the development of the accounting profession [67]. The lowest value of the accounting services coverage (ASC) is in the Republic of Moldova, and the highest values are in countries such as Belgium, Italy, and Spain. In Switzerland, most associations address the same group of accounting professionals (PCO).

The least complex country with respect to the accounting profession (CAS) is the Republic of Moldova, whereas the country with the most complex professional setting is the U.K. The countries with the least membership service coverage (MSC) are represented by North Macedonia and Republic of Moldova, whereas the countries with 100% membership service coverage are Austria, Denmark, France, Germany, Ireland, Poland, Portugal, Russia, Spain, Sweden, the Czech Republic, and the United Kingdom. Moreover, the extent of membership benefits and services (EMB) indicator shows that professional bodies from the Republic of Moldova provide relatively few professional services to their members, while associations in the U.K. provide numerous and overlapping membership services to their members. The country that provides the fewest membership services and benefits (APM) is Bulgaria, while the country that provides the most membership services and benefits is the U.K.

The most important indicator in our study is the development of the accountancy profession (DAP). In countries with a low DAP, professional bodies offer a small range of benefits to their members. This indicator does not have an upper limit. The highest value of this indicator is obtained by the U.K., which also scores the highest on the extent of membership services and benefits and complexity of the accounting profession. Figure 3 shows a map of the development of the accounting profession (DAP) for all European countries.

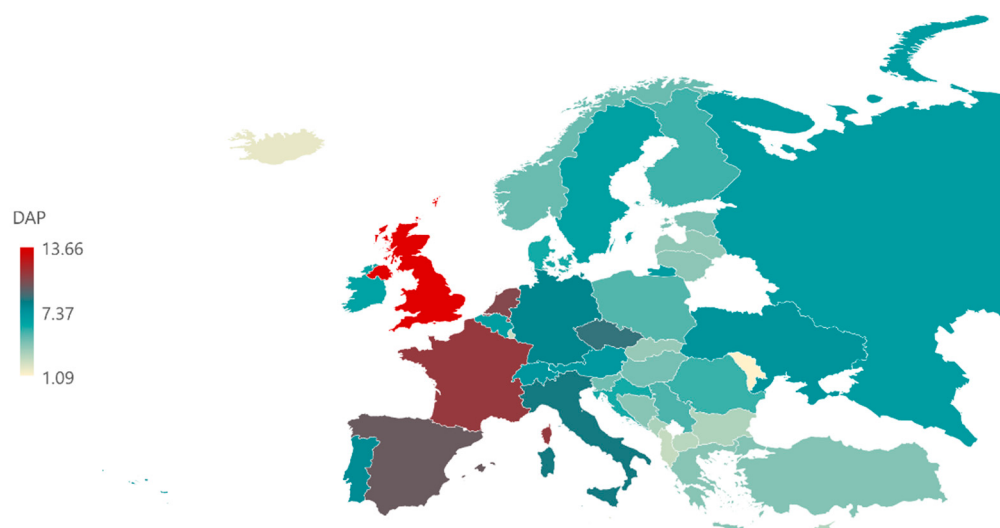


Figure 3. A map of the development of the accounting and finance profession (DAP) in Europe. Source: Authors.

Table 5 presents the correlation between the main variables in the present study. The results suggest that larger countries have, on average, better scores on the total number of services (*TotalServ*) and the development of the accounting profession in a country (DAP). Moreover, there are positive and significant correlations between the number of associations (*orgcount*) and the following variables, in descending order of effect size: the extent of membership benefits and services (EMB), the degree of accounting service coverage (ASC), the membership service coverage (MSC), country population (*pop*), the Global Competitiveness Index (GCI), the complexity of accounting services (CAS), and

the economic complexity index indicator (*ECI*). Except for the economic complexity index (*ECI*), all other relationships show a large effect in correlation to the number of associations. This result suggests that *orgcount* is a good proxy for the development of the accounting and finance profession in a country (*DAP*). The World Digital Competitiveness Ranking (*WDGR*) is highly correlated with the Global Competitiveness Index (*GCI*), indicating that one measure can substitute the other in the regression model.

Table 5. Correlations between the main variables.

Indicator	<i>orgcount</i>	<i>TotalServ</i>	<i>ASC</i>	<i>PCO</i>	<i>CAS</i>	<i>MSC</i>	<i>EMB</i>	<i>APM</i>	<i>DAP</i>	<i>gdppc</i>	<i>pop</i>	<i>GCI</i>	<i>ECI</i>	<i>WDCR</i>
<i>orgcount</i>	1													
<i>accserv</i>	0.83 **	1												
<i>ASC</i>	0.79 **	0.89 **	1											
<i>PCO</i>	0.07	0.56 **	0.50 **	1										
<i>CAS</i>	0.49 **	0.85 **	0.85 **	0.87 **	1									
<i>MSC</i>	0.63 **	0.65 **	0.75 **	0.33 *	0.60 **	1								
<i>EMB</i>	0.95 **	0.88 **	0.74 **	0.17	0.52 **	0.63 **	1							
<i>APM</i>	0.28	0.48 **	0.24	0.38 *	0.36 *	0.33 *	0.55 **	1						
<i>DAP</i>	0.90 **	0.97 **	0.87 **	0.43 **	0.75 **	0.69 **	0.96 **	0.55 **	1					
<i>gdppc</i>	0.23	0.21	0.30	0.03	0.23	0.38 *	0.15	−0.22	0.20	1				
<i>population</i>	0.59 **	0.46 **	0.40 **	0	0.21	0.43 **	0.57 **	0.20	0.51 **	−0.09	1			
<i>GCI</i>	0.53 **	0.57 **	0.62 **	0.27	0.54 **	0.55 **	0.47 **	−0.02	0.55 **	0.78 **	0.12	1		
<i>ECI</i>	0.39 *	0.56 **	0.62 **	0.40 *	0.59 **	0.52 **	0.39 *	0.17	0.51 **	0.64 **	0.02	0.70 **	1	
<i>WDCR</i>	0.16	0.35	0.32	0.43 *	0.46 **	0.28	0.19	0.23	0.31	0.51 **	−0.09	0.86 **	0.37	1

Source: Authors. Notes: * $p < 0.05$; ** $p < 0.01$.

The independent sample *t*-tests on the World Bank country classification by income are presented in Table 6. The number of professional associations in high-income countries is significantly higher than the number of associations in middle-income countries. An even larger and more significant difference is obtained in the case of the accounting services indicator (*accserv*). High-income countries have significantly better scores on other indicators, such as the degree of accounting services coverage (*ASC*), the complexity of accounting services (*CAS*), membership service coverage (*MSC*), and the development of the accounting profession in a country (*DAP*). These results support hypothesis H1 of the present study. Only the average provision of membership services (*APM*) is slightly lower in high-income countries, but the difference is not significant. High-income countries had a higher Global Competitiveness Index (*GCI*) and a higher economic complexity index (*ECI*) compared to middle-income countries. This result suggests that these indicators are factors that influence the differences in the institutional setup of the accounting profession between the two groups of countries.

Table 6. Group tests on World Bank country classification.

Indicator	High Income (<i>n</i> = 29)		Middle Income (<i>n</i> = 11)		df	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
<i>orgcount</i>	9.14	4.10	6.55	2.91	25.51	2.23 *	0.035	0.73
<i>accserv</i>	26.21	13.27	16.09	7.56	31.63	3.01 **	0.005	0.94
<i>ASC</i>	0.67	0.20	0.45	0.17	20.90	3.38 **	0.003	1.19
<i>PCO</i>	2.84	0.79	2.39	0.98	15.21	1.38	0.187	0.51
<i>CAS</i>	1.99	0.90	1.12	0.75	21.49	3.06 **	0.006	1.05
<i>MSC</i>	0.91	0.10	0.79	0.15	13.42	2.47 *	0.028	0.94
<i>EMB</i>	4.13	2.22	3.08	1.51	26.70	1.70	0.101	0.55
<i>APM</i>	0.44	0.06	0.46	0.87	14.34	−0.85	0.411	0.03
<i>DAP</i>	6.11	2.80	4.21	1.86	27.32	2.49 *	0.019	0.80
<i>gdppc</i>	48,411.66	18,332.60	19,954.73	6398.79	37.92	7.27 ***	0.001	2.07
<i>pop</i>	17,357,956	23,662,661	28,785,942	45,215,765	12.14	−0.80	0.440	0.32
<i>GCI</i>	73.51	6.29	60.28	3.93	29.07	7.96 ***	0.001	2.52
<i>ECI</i>	1.21	0.52	0.37	0.49	17.35	4.54 ***	0.001	1.66

Notes: The *t*-statistics and degrees of freedom (*df*) reported for equal variances not assumed; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Source: Authors.

The independent sample *t*-tests on eurozone versus non-eurozone countries are presented in Table 7. The number of professional bodies from eurozone countries significantly exceeds the number of associations from non-eurozone countries. Although the number of accounting services is higher in eurozone countries than in non-eurozone countries, the difference is not significant. Other indicators such as accounting services coverage (ASC), complexity of accounting services (CAS), membership service coverage (MSC), the extent of membership benefits and services (EMB), and the development of the accounting and finance profession in a country (DAP) are higher in eurozone countries compared to non-eurozone countries, but the differences are not significant. Therefore, hypothesis H1 must be rejected in this case. The eurozone average country score is significantly lower on the provision of membership services (APM) compared to non-eurozone countries. Real GDP per capita in 2019 and the Global Competitiveness Index (GCI) had significantly higher values in eurozone countries compared to non-eurozone countries, but this did not have a real influence on accounting profession differences between the two groups of countries.

Table 7. Group tests on the eurozone.

Indicator	Eurozone (<i>n</i> = 19)		Non-Eurozone (<i>n</i> = 21) Base Category		df	t	<i>p</i>	Cohen's <i>d</i>
	M	SD	M	SD				
<i>orgcount</i>	9.74	4.47	7.24	3.05	31.33	2.04 *	0.049	0.65
<i>accserv</i>	24.89	12.45	22.10	13.14	37.91	0.69	0.493	0.22
ASC	0.67	0.21	0.56	0.21	37.30	1.42	0.094	0.52
PCO	2.53	0.57	2.88	1.04	31.82	−1.38	0.178	0.42
CAS	1.76	0.77	1.74	1.09	35.98	0.08	0.939	0.02
MSC	0.91	0.10	0.85	0.15	34.43	1.51	0.140	0.47
EMB	4.20	2.18	3.51	1.99	36.66	1.05	0.302	0.33
APM	0.42	0.05	0.47	0.08	31.86	−2.18 *	0.037	0.75
DAP	5.96	2.68	5.25	2.73	37.72	0.84	0.408	0.26
<i>gdppc</i>	48,627.16	20,593.13	33,310.67	17,754.53	35.79	2.51 *	0.017	0.80
<i>pop</i>	18,052,616	25,600,007	22,715,524	35,461,677	36.30	−0.48	0.634	0.15
GCI	72.96	5.73	67.08	9.28	33.75	2.44 *	0.020	0.76
ECI	1.12	0.52	0.85	0.71	32.71	1.30	0.202	0.43

Source: Authors. Notes: The *t*-statistics and degrees of freedom (df) reported for equal variances not assumed; * *p* < 0.05, ** *p* < 0.01, *** *p* < 0.001.

Table 8 presents group tests on Central and Eastern, Western and Northern, and Southern European regions by using one-way ANOVA. There are no significant differences between the three regions for the following comparative indicators: the degree of accounting service coverage (ASC), the degree of overlap in professional coverage (PCO), the complexity of accounting services (CAS), the membership service coverage (MSC), the extent of membership benefits and services (EMB), the average provision of membership services and benefits (APM), and the development of the accounting and finance profession (DAP). Thus, hypothesis H1 of the study cannot be supported in the case of the group test in regions. Although demographic indicators such as real GDP per capita in 2019, the Global Competitiveness Index (GCI), and the Economic Complication Index (ECI) differ significantly between the three groups, it cannot be concluded that these factors have an influence on the profession.

The results of the regression analysis applied to model (1) are presented in Table 9. Backward stepwise elimination was used to provide the final form of the model. Only two significant variables were included in the estimation after the elimination procedure. The size of the population of one country and the economic competitiveness score of that country are significant predictors. National competitiveness is defined as the set of institutions, policies, and factors that determine the level of productivity in a country [68].

Table 8. Group tests on regions (one-way ANOVA table).

Indicator	Central and Eastern (<i>n</i> = 14)		Western and Northern (<i>n</i> = 11)		Southern (<i>n</i> = 15)		One-Way ANOVA F
	M	SD	M	SD	M	SD	
<i>orgcount</i>	8.00	3.11	10.09	5.22	7.60	3.44	1.41
<i>accserv</i>	23.00	10.82	28.64	15.46	20.00	11.73	1.51
<i>ASC</i>	0.60	0.19	0.70	0.22	0.56	0.22	1.43
<i>PCO</i>	2.87	0.89	2.82	0.84	2.49	0.84	0.85
<i>CAS</i>	1.78	0.92	2.06	0.94	1.48	0.93	1.30
<i>MSC</i>	0.88	0.14	0.92	0.10	0.83	0.13	1.61
<i>EMB</i>	3.65	1.47	4.75	3.00	3.34	1.63	1.58
<i>APM</i>	0.45	0.05	0.45	0.08	0.44	0.07	0.23
<i>DAP</i>	5.44	2.10	6.82	3.59	4.82	2.25	1.86
<i>gdppc</i>	36,710.29 ^{ab}	15,254.06	62,057.36 ^a	20,697.74	28,457.67 ^b	10,285.51	15.76 ^{**}
<i>pop</i>	25,615,965	40,424,859	17,977,605	24,997,941	17,579,395	25,504,735	0.28
<i>GCI</i>	69.23 ^a	7.50	78.75 ^b	2.68	63.95 ^a	5.69	20.58 ^{**}
<i>ECI</i>	1.15 ^{ab}	0.4	1.26 ^a	0.33	0.58 ^b	0.48	4.96 [*]

Source: Authors. Notes: The F statistic is significant at * $p < 0.05$; ** $p < 0.01$. We used the Games Howell post hoc test for groups where homogeneity of variances is not assumed. Differing superscripts (a, b) indicate significant differences between the respective groups at $p < 0.05$.

Table 9. Stepwise regression estimation with *DAP* as the dependent variable and *GCI* as the predictor.

Dependent: <i>DAP</i>	Factors	Unstandardized Coef.		Standardized Coef. (Beta)	t	Sig.	Adj. R ²
		B	Std. Error				
1	constant	−22.05 ^{**}	4.368	n/a	−5.048	0.001	0.630
	<i>gdppc</i>	−0.00025	0	−1.168	−0.769	0.448	
	<i>ln(pop)</i>	1.069 ^{**}	0.243	0.540	4.506	0.001	
	<i>GCI</i>	0.932	0.946	0.479	1.911	0.066	
	<i>High income</i>	0.932	0.946	0.162	0.985	0.333	
	<i>ECI</i>	0.291	0.614	0.071	0.475	0.638	
2	constant	−22.73 ^{**}	4.074	n/a	−5.579	0.001	0.639
	<i>gdppc</i>	−0.00024	0	−1.157	−0.733	0.469	
	<i>ln(pop)</i>	1.114 ^{**}	0.237	0.549	4.699	0.001	
	<i>GCI</i>	0.156 [*]	0.075	0.504	2.080	0.046	
	<i>High income</i>	1.038	0.908	0.180	1.143	0.262	
3	constant	−21.415 ^{**}	3.631	n/a	−5.898	0.001	0.644
	<i>ln(pop)</i>	1.155 ^{**}	0.229	0.569	5.052	0.001	
	<i>GCI</i>	0.115 [*]	0.050	0.372	2.312	0.027	
	<i>High income</i>	0.963	0.896	0.167	1.075	0.291	
4	constant	−22.06 ^{**}	3.589	n/a	−6.147	0.001	0.643
	<i>ln(pop)</i>	1.062 ^{**}	0.212	0.523	5.006	0.001	
	<i>GCI</i>	0.156 ^{**}	0.032	0.503	4.809	0.001	

Source: Authors. Notes: * $p < 0.05$; ** $p < 0.01$. Backwards stepwise regression was applied to the proposed model. The remaining predictors are not affected by multicollinearity. Total degrees of freedom for all models: $df = 35$.

Population size and national competitiveness are not significantly correlated, and the model has an adjusted R² of 0.643 ($F = 32.49$, $p < 0.001$). In terms of the relative contribution of each factor to the development of the accounting profession (*DAP*), their standardized coefficients are similar. Therefore, these factors have similar and positive contributions to an increase in the dependent variable. Although the size of the population has a high inertia, the economic competitiveness of a country is influenced by numerous factors, both at the national and international levels. Increased competitiveness creates the demand for more complex accounting and finance services, which also increases the demand for specialized education and training in this domain. The contribution of the *GCI* to the development of the accounting and finance profession is a confirmation of hypothesis H2.

As a robustness test, the World Digital Competitiveness Ranking (WDCR) is used as a predictor instead of the GCI. The results are presented in Table 10. The sample is restricted to 31 countries, for which the scores have been calculated in the latest 2022 report. The results indicate a similar explanatory power of the model. The model using digital competitiveness has one more predictor, i.e., the classification of countries in high-income versus medium-income countries. Digital competitiveness is different even within these two categories of countries. Therefore, WDCR is a significant and positive predictor of the development of the accounting and finance profession in a country, after controlling for population size and the macro-economic environment. The use of two competitiveness indicators (GCI and WDCR) with similar results proves that country competitiveness is a significant and positive factor in the development of the accounting and finance profession. Hypothesis H2 is validated.

Table 10. Stepwise regression estimation with *DAP* as the dependent variable and WDCR as the predictor.

Dependent: <i>DAP</i>	Factors	Unstandardized Coef.		Standardized Coef. (Beta)	t	Sig.	Adj. R ²
		B	Std. Error				
1	constant	−23.486 **	4.859		−4.833	0.001	0.588
	<i>gdppc</i>	−0.0000575	0	−0.032	−0.171	0.866	
	<i>ln(pop)</i>	1.490 **	0.276	0.716	5.399	0.001	
	WDCR	0.047	0.029	0.296	1.625	0.118	
	<i>High income</i>	2.646 *	1.156	0.319	2.289	0.032	
	<i>ECI</i>	0.307	0.709	0.062	0.434	0.699	
2	constant	−23.394 **	4.731		−4.945	0.001	0.604
	<i>ln(pop)</i>	1.487	.270	0.715	5.515	0.001	
	WDCR	0.043	0.021	0.276	2.036	0.053	
	<i>High income</i>	2.610 *	1.114	0.315	2.344	0.028	
	<i>ECI</i>	0.282	0.679	0.057	0.415	0.682	
3	constant	−23.962 **	4.452		−5.382	0.001	0.617
	<i>ln(pop)</i>	1.525 **	0.249	0.733	6.112	0.001	
	WDCR	0.046 *	0.020	0.293	2.325	0.028	
	<i>High income</i>	2.710 *	1.070	0.326	2.533	0.018	

Source: Authors. Notes: * $p < 0.05$; ** $p < 0.01$. Backwards stepwise regression was applied to the proposed model. The remaining predictors are not affected by multicollinearity. Total degrees of freedom for all models: $df = 28$.

5. Discussion and Conclusions

The accounting and finance profession consists of various services provided by experts and trainees to companies, institutions, and other beneficiaries. Candidates for a career as a certified professional expect higher income, job security, advancement, job status, and challenging work performed independently [69]. We investigated the accounting and finance profession in Europe using a methodology based on content analysis. The sample consisted of 40 European countries with a population of more than 100,000 citizens. The present paper provides a comprehensive overview of the accounting and finance services that exist at the level of each European country and the membership services covered by professional associations. This research uses quantitative analysis to answer the question of whether the accounting and finance profession is comparable between European countries. Econometric analysis seeks to identify the factors that influence the development of this profession.

The results of the present study show that in Europe, accounting and finance professionals provide 20 types of services monitored and regulated by professional bodies. The most common professional accounting services are Accounting and financial reporting, External audit, and Public sector accounting and audit. On the other hand, we found that Mediation and Asset management are the least common professional services at the European level. The results also show that the 337 accounting and finance associations from

European countries cover 14 membership services and benefits, of which Collaborations are the most common, while the least common benefit to members is Legal protection.

Using an original scoring scale, statistical analysis was performed to assess the level of similarity between European countries with respect to the development of the accounting and finance profession. The results show that there are still significant differences between countries in terms of the level of development of the profession. Our findings support the literature [68] in that there are large cross-regional disparities in national competitiveness between countries of Northern and Western Europe and countries of Southern, Eastern, and South-Eastern Europe. Additionally, the number of professional associations and professional services is significantly higher in high-income countries compared to middle-income countries. The accounting and finance profession in high-income countries is more complex and covers a larger number of accounting and membership services. In eurozone versus non-eurozone countries, the only significant difference is in the number of professional bodies—eurozone countries have, on average, more associations than non-eurozone countries. Furthermore, when comparing Central–Eastern, Western–Northern, and Southern Europe, the results show that none of the indicators were significantly different between these groups of countries.

Regression analysis added further insight into the factors that determine the development of the accounting and finance profession at the national level. As one would expect, the size of the population is a predictor of the development of the accounting and finance profession. Additionally, a country's high level of economic and digital competitiveness creates demand for more sophisticated accounting and finance services. Economic competitiveness is a mixture of macroeconomic and business aspects [70], such as a stable macroeconomic framework, higher education and training, efficient markets for goods and labor, developed financial markets, innovation, the ability to harness existing technology, and the production of new and different goods using the most sophisticated production processes. Digital competitiveness consists of three main factors: knowledge, technology, and future readiness. The increased demand for professional digital services is the basis for more diverse and complex university curricula and professional training programs. Accounting and finance education is provided, on the one hand, by secondary schools and universities, which rely on more conventional and bureaucratic pedagogy [71]. On the other hand, professional associations focus on advanced practical skills in accounting and finance [6]. The teaching of such skills is left to professional training courses and professionally oriented academic courses, answering the demands of different markets and industries.

This study contributes to the accounting and finance research literature in several ways. First, this article provides an overview of the professional services and membership services provided by accounting and finance associations in Europe. Second, this article extends other studies that focus on only one professional service [72] or only make comparisons between a limited number of European countries [73]. The present contribution should be of interest to regulators, as it quantifies the level of similarity between European countries in terms of the development of the accounting and finance profession. To mitigate some of these differences, regulators could identify good-practice models and develop those technical and institutional tools that could increase the robustness of professional associations and the efficiency of their activities.

Countries that have the highest level of integration of professional services, but also the highest level of benefits provided to members, can be considered as models of good practice in terms of institutional support to the profession. Furthermore, country-level decisions are needed to homogenize the training of members of professional bodies. Another contribution is related to the proposed indicators, which are a novel contribution of the present paper. These indicators could be used in future studies related to the accounting and finance profession on a global scale.

Previous studies confirmed that employers place greater emphasis on the competencies gained through professional training under the IFAC guidelines than on the knowledge

gained through the academic accounting curriculum. There are studies [74,75] that confirm that employers and also professional bodies consider university graduates to have fewer technical and research skills to help them solve professional tasks. This justifies professional entrance exams and assessments during apprenticeship. Memoranda of agreement between professional bodies and universities are a solution to enhance the skills of accounting and finance trainees. Professional associations would recognize the competencies taught by universities, provided that the standards of education implemented in bachelor and master's programs are complementary and relevant to those of professional bodies. The expectation gap between different stakeholders in the profession remains a fertile ground for research [74]. However, Hopper [71] believes that academic accounting should not live 'in the shadow of the profession'.

Another important topic is the concept of innovation in professional services. Digital technology has contributed to the changing role and identity of the profession as it has evolved over time [24]. Previous literature has shown that some of the most important drivers of competitiveness are related to the knowledge economy: innovation (including digitalization) and education [76]. Additionally, digitalization has changed the behavior of professional accountants in reducing the processing time of accounting documents and increasing the ability to analyze and provide consulting services [16]. As a result of digitalization, professional accountants must no longer perform repetitive activities, which can be automated with the help of technologies such as artificial intelligence, blockchain [77], big data [78], and cloud computing. These technologies improve not only the data entry process but also the quality and accuracy of information.

There are significant differences in the degree of digitalization in European countries [79]. Digitalization has created new opportunities for the accounting profession, defining new roles for members. On the other hand, it is a tool through which professional bodies can manage resources and activities more efficiently [80]. Digitalization allows for the sharing of resources between specialists from different jurisdictions who provide services to the same client. Transferring knowledge and resources would alleviate these differences, but would require significant digital infrastructure and skills. The digital transformation of tax authorities and other public institutions is advanced in some European countries and quite precarious in others [81,82]. Professional bodies commission studies and guides on the use of new technologies and organize training courses for members to adopt these technologies in their work. In addition to initial education, professional associations ensure continuing professional development, including digital training. IFAC member associations have implemented the IES 7 'Continuing Professional Development' standard [83].

Connecting the profession with the labor market and expert mobility is another topic of interest. According to the results obtained in the present study, accounting and finance professions have a variety of job descriptions. One barrier to accessing a job in another country may be the employer's difficulty in properly assessing the candidate's skills. An employer looking for professionals with certain skills in a particular jurisdiction should have access to relevant information by checking the public certifications of the applicants. Professional associations must increase the transparency of their certifications and skill training programs for employers to be able to check the competencies of job applicants [84]. This is another consequence of the increased competitiveness of national economies. Accounting and finance professionals can enjoy greater cross-border mobility if their competencies are recognized at the international level.

Depending on the category of professional services, the way in which service quality is monitored may differ. At the international level, there is a quality oversight framework for audit services [85]. The existence of supervisory bodies and the efficiency of their activities are strongly related to an increase in the quality of services, but also to an increase in the public confidence regarding the quality of audit information [86]. The effectiveness of quality assurance depends on the resources allocated by professional associations for this purpose. For other services such as mediation, compliance, and fraud prevention, there

are often no quality control mechanisms, but only the obligation to be insured against malpractice. The report by the Association of Certified Fraud Examiners [87] confirms that internal audit deficiencies are one of the main causes of fraud globally, and the value of frauds due to internal audit breaches is significant.

The results of the present study have some limitations. Although the data collection process was rigorous, it may be possible that some professional associations, accounting services, or membership services remained unidentified. Some information on associations' websites was unavailable due to technical errors or it was not properly translated into English. Moreover, the proposed indicators used to measure the differences between European countries in terms of accounting and finance services are based on the judgment of the authors and could be improved. Future studies could identify additional indicators to provide more evidence and analyze in more depth the reasons for the differences. For example, factors related to the higher education system in accounting and finance could influence the development of the profession in a country. Another interesting aspect is the way in which different parties, such as regulators, accounting associations, and universities, contribute to the development of the accounting and finance profession in Europe and their interconnections on this matter.

Author Contributions: Conceptualization, L.I.-F., V.D.D. and Ş.B.; methodology, L.I.-F., V.D.D. and Ş.B.; software, V.D.D., O.C.S. and L.-E.-L.B.; validation, L.I.-F., V.D.D. and Ş.B.; formal analysis, L.I.-F., V.D.D. and Ş.B.; investigation, L.I.-F. and V.D.D.; resources, L.I.-F.; data curation, V.D.D.; writing—original draft preparation, L.I.-F., V.D.D., Ş.B., O.C.S. and L.-E.-L.B.; writing—review and editing, L.I.-F. and V.D.D.; supervision, L.I.-F.; project administration, L.I.-F.; funding acquisition, L.I.-F. All authors have read and agreed to the published version of the manuscript.

Funding: This research was supported by the Bucharest University of Economic Studies through the research grant PROCTB entitled: 'Comparative study of the accounting profession in the EU. Advantages or limitations of a single profession'. This paper was co-financed by The Bucharest University of Economic Studies Ph.D. program.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Table A1. Country-level indicators.

Country	<i>orgcount</i>	<i>Totalserv</i>	<i>CAS</i>	<i>EMB</i>	<i>DAP</i>	Region	<i>GCI</i>	<i>WBCa</i>
Albania	5	9	0.45	2.21	2.66	Southern	57.6	M
Austria	11	32	2.62	4.43	7.05	Central	76.6	H
Belgium	10	29	2.76	3.93	6.68	Western	76.4	H
Bosnia and Herzegovina	6	14	0.82	3.29	4.10	Southern	54.7	M
Bulgaria	6	14	1.17	2.00	3.17	Southern	64.9	M
Croatia	7	26	2.79	3.07	5.86	Southern	61.9	H
Cyprus	5	13	1.30	1.79	3.09	Southern	66.4	H
Denmark	7	25	2.68	3.21	5.89	Northern	81.2	H
Estonia	5	18	1.98	2.36	4.34	Eastern	70.9	H
Finland	8	26	2.28	3.14	5.42	Northern	80.2	H
France	21	42	1.80	9.21	11.01	Western	78.8	H
Germany	13	35	2.15	5.79	7.94	Central	81.8	H
Greece	7	16	1.37	2.71	4.09	Southern	62.6	H
Hungary	6	22	2.02	2.43	4.45	Central	65.1	H
Iceland	3	6	0.50	1.29	1.79	Northern	74.7	H
Ireland	10	24	1.68	4.64	6.32	Western	75.1	H
Italy	14	43	2.92	5.50	8.42	Southern	71.5	H
Latvia	6	15	1.25	2.64	3.89	Eastern	67.0	H
Lithuania	8	14	0.79	3.21	4.00	Eastern	68.4	H
Luxembourg	6	8	0.47	2.07	2.54	Western	77.0	H

Table A1. Cont.

Country	orgcount	Totalserv	CAS	EMB	DAP	Region	GCI	WBCa
Malta	5	8	0.48	1.86	2.34	Southern	68.5	H
Montenegro	6	14	0.70	2.57	3.27	Southern	60.8	M
North Macedonia	5	11	0.88	2.07	2.95	Southern	57.3	M
Norway	7	23	2.14	2.57	4.71	Northern	78.1	H
Poland	8	16	1.10	4.00	5.10	Central	68.9	H
Portugal	12	30	1.88	5.79	7.66	Southern	70.4	H
Rep. of Moldova	2	4	0.30	0.79	1.09	Eastern	56.7	M
Romania	10	18	0.33	5.14	5.48	Southern	64.4	M
Russia	13	24	1.20	5.57	6.77	Eastern	66.7	M
Serbia	5	20	2.40	2.86	5.26	Southern	60.9	M
Slovakia	6	14	1.05	2.71	3.76	Central	66.8	H
Slovenia	7	18	1.54	3.00	4.54	Central	70.2	H
Spain	15	47	2.98	6.79	9.76	Southern	75.3	H
Sweden	8	30	2.63	3.93	6.55	Northern	81.2	H
Switzerland	8	36	3.60	3.64	7.24	Central	82.3	H
The Czech Rep.	11	42	3.05	5.64	8.70	Central	70.9	H
The Netherlands	16	41	2.18	8.29	10.46	Western	82.4	H
Turkey	6	17	1.70	2.50	4.20	Southern	62.1	M
U.K.	15	61	3.66	10.00	13.66	Western	81.2	H
Ukraine	8	32	2.40	4.93	7.33	Eastern	57.0	M

Source: Authors.

References

- Anderson-Gough, F.; Grey, C.; Robson, K. Accounting Professionals and the Accounting Profession: Linking Conduct and Context. *Account. Bus. Res.* **2002**, *32*, 41–56. [\[CrossRef\]](#)
- Buchheit, S.; Dalton, D.W.; Harp, N.L.; Hollingsworth, C.W. A Contemporary Analysis of Accounting Professionals' Work-Life Balance. *Account. Horiz.* **2016**, *30*, 41–62. [\[CrossRef\]](#)
- De Loo, I.; Verstegen, B.; Swagerman, D. Understanding the Roles of Management Accountants. *Eur. Bus. Rev.* **2011**, *23*, 287–313. [\[CrossRef\]](#)
- Bancel, F.; Mittoo, U.R. The Gap between the Theory and Practice of Corporate Valuation: Survey of European Experts. *J. Appl. Corp. Financ.* **2014**, *26*, 106–117. [\[CrossRef\]](#)
- COSO. *Enterprise Risk Management. Integrating with Strategy and Performance*; Committee of Sponsoring Organizations of the Treadway Commission: Nashville, TN, USA, 2017.
- Duff, A.; Hancock, P.; Marriott, N. The Role and Impact of Professional Accountancy Associations on Accounting Education Research: An International Study. *Br. Account. Rev.* **2020**, *52*, 100829. [\[CrossRef\]](#)
- Nerland, M.; Karseth, B. The Knowledge Work of Professional Associations: Approaches to Standardisation and Forms of Legitimation. *J. Educ. Work.* **2015**, *28*, 1–23. [\[CrossRef\]](#)
- Greenwood, R.; Suddaby, R.; Hinings, C.R. Theorizing Change: The Role of Professional Associations in the Transformation of Institutionalized Fields. *Acad. Manag. J.* **2002**, *45*, 58–80. [\[CrossRef\]](#)
- Hopper, T.; Lassou, P.; Soobaroyen, T. Globalisation, Accounting and Developing Countries. *Crit. Perspect. Account.* **2017**, *43*, 125–148. [\[CrossRef\]](#)
- Polzer, T.; Grossi, G.; Reichard, C. Implementation of the International Public Sector Accounting Standards in Europe. Variations on a Global Theme. *Account. Forum* **2022**, *46*, 57–82. [\[CrossRef\]](#)
- Carter, D.P.; Mahallati, N. Coordinating Intermediaries: The Prospects and Limitations of Professional Associations in Decentralized Regulation. *Regul. Gov.* **2019**, *13*, 51–69. [\[CrossRef\]](#)
- Fraser, K.; Sheehy, B. Abundant Publications but Minuscule Impact: The Irrelevance of Academic Accounting Research on Practice and the Profession. *Publications* **2020**, *8*, 46. [\[CrossRef\]](#)
- Baker, C.R. A Comparative Analysis of the Development of the Auditing Profession in the United Kingdom and France. *Account. Hist.* **2014**, *19*, 97–114. [\[CrossRef\]](#)
- Ionescu-Feleagă, L.; Ionescu, B.-Ş.; Stoica, O.C. The Impact of Digitalization on Happiness: A European Perspective. *Mathematics* **2022**, *10*, 2766. [\[CrossRef\]](#)
- Dimitriu, O.; Matei, M. A New Paradigm for Accounting through Cloud Computing. *Procedia Econ. Financ.* **2014**, *15*, 840–846. [\[CrossRef\]](#)
- Kokina, J.; Blanchette, S. Early Evidence of Digital Labor in Accounting: Innovation with Robotic Process Automation. *Int. J. Account. Inf. Syst.* **2019**, *35*, 100431. [\[CrossRef\]](#)

17. Brouard, F.; Bujaki, M.; Durocher, S.; Neilson, L.C. Professional Accountants' Identity Formation: An Integrative Framework. *J. Bus. Ethics* **2017**, *142*, 225–238. [\[CrossRef\]](#)
18. Carnegie, G.D.; Napier, C.J. Traditional Accountants and Business Professionals: Portraying the Accounting Profession after Enron. *Account. Organ. Soc.* **2010**, *35*, 360–376. [\[CrossRef\]](#)
19. Tiron Tudor, A. Balancing the Public and the Private Interest—A Dilemma of Accounting Profession. *Procedia Soc. Behav. Sci.* **2013**, *92*, 930–935. [\[CrossRef\]](#)
20. Ferry, L.; Ahrens, T. Using Management Control to Understand Public Sector Corporate Governance Changes: Localism, Public Interest, and Enabling Control in an English Local Authority. *J. Addict. Offender Couns.* **2017**, *13*, 548–567. [\[CrossRef\]](#)
21. Adams, T.L. Professional Self-Regulation and the Public Interest in Canada. *Prof. Prof.* **2016**, *6*. [\[CrossRef\]](#)
22. Fogarty, T.; Jones, D.A. Between a Rock and a Hard Place: How Tax Practitioners Straddle Client Advocacy and Professional Responsibilities. *Qual. Res. Account. Manag.* **2014**, *11*, 286–316. [\[CrossRef\]](#)
23. Roussy, M. Internal Auditors' Roles: From Watchdogs to Helpers and Protectors of the Top Manager. *Crit. Perspect. Account.* **2013**, *24*, 550–571. [\[CrossRef\]](#)
24. Andreassen, R.-I. Digital Technology and Changing Roles: A Management Accountant's Dream or Nightmare? *J. Manag. Control* **2020**, *31*, 209–238. [\[CrossRef\]](#)
25. IFAC. IFAC Global Impact Map. Available online: <https://www.ifac.org/what-we-do/global-impact-map/country-profiles> (accessed on 1 December 2021).
26. Stanciu, V.; Rîndașu, S.-M. The Impact of General Data Protection Regulation in the Accounting Profession—Evidences from Romania. *J. Int. Acad. Case Stud.* **2018**, *2018*, 1–9. [\[CrossRef\]](#)
27. Thornburg, S.; Roberts, R.W. In Whose Interest? A Critical Examination of Public Interest Appeals Made by the Public Accounting Profession in the USA. *Int. J. Comput. Appl.* **2013**, *5*, 81. [\[CrossRef\]](#)
28. Huber, W.D. Should the Forensic Accounting Profession Be Regulated? *Res. Account. Regul.* **2013**, *25*, 123–132. [\[CrossRef\]](#)
29. Canning, M.; O'Dwyer, B. Professional Accounting Bodies' Disciplinary Procedures: Accountable, Transparent and in the Public Interest? *Eur. Account. Rev.* **2001**, *10*, 725–749. [\[CrossRef\]](#)
30. Loscher, G.; Löhlein, L.; Lenz, H. Dual Roles and Blurred Identities: A Framing Contest between Professional Associations in a Local Strategic Action Field. *Eur. Account. Rev.* **2021**, *30*, 503–529. [\[CrossRef\]](#)
31. Del Baldo, M.; Tiron-Tudor, A.; Faragalla, W. Women's Role in the Accounting Profession: A Comparative Study between Italy and Romania. *Adm. Sci.* **2018**, *9*, 2. [\[CrossRef\]](#)
32. Albu, N.; Albu, C.N.; Gray, S.J. Institutional Factors and the Impact of International Financial Reporting Standards: The Central and Eastern European Experience. *Account. Forum* **2020**, *44*, 184–214. [\[CrossRef\]](#)
33. Markova, G.; Ford, R.C.; Dickson, D.R.; Bohn, T.M. Professional Associations and Members' Benefits: What's in It for Me? *Nonprofit Manag. Leadersh.* **2013**, *23*, 491–510. [\[CrossRef\]](#)
34. Robertson, J.C.; Houston, R.W. Investors' Expectations of the Improvement in the Credibility of Audit Opinions Following PCAOB Inspection Reports with Identified Deficiencies. *Account. Public Interest* **2010**, *10*, 36–56. [\[CrossRef\]](#)
35. Feleagă, L.; Dragomir, V.D.; Feleagă, N. National Accounting Culture and Empirical Evidence on the Application of Conservatism. *Econ. Comput. Econ. Cybern. Stud. Res.* **2010**, *44*, 43–60.
36. Velayutham, S. The Accounting Profession's Code of Ethics: Is It a Code of Ethics or a Code of Quality Assurance? *Crit. Perspect. Account.* **2003**, *14*, 483–503. [\[CrossRef\]](#)
37. Curtis, M.B.; Taylor, E.Z. Whistleblowing in Public Accounting: Influence of Identity Disclosure, Situational Context, and Personal Characteristics. *Account. Public Interest* **2009**, *9*, 191–220. [\[CrossRef\]](#)
38. Clements, C.E.; Neill, J.D.; Stovall, O.S. The Impact of Cultural Differences on the Convergence of International Accounting Codes of Ethics. *J. Bus. Ethics* **2009**, *90*, 383–391. [\[CrossRef\]](#)
39. Spence, C.; Carter, C. An Exploration of the Professional Habitus in the Big 4 Accounting Firms. *Work. Employ. Soc.* **2014**, *28*, 946–962. [\[CrossRef\]](#)
40. Coram, P.J.; Robinson, M.J. Professionalism and Performance Incentives in Accounting Firms. *Account. Horiz.* **2017**, *31*, 103–123. [\[CrossRef\]](#)
41. Shafer, W.E.; Poon, M.C.C.; Tjosvold, D. An Investigation of Ethical Climate in a Singaporean Accounting Firm. *Account. Audit. Account. J.* **2013**, *26*, 312–343. [\[CrossRef\]](#)
42. Bobek, D.D.; Hageman, A.M.; Radtke, R.R. The Influence of Roles and Organizational Fit on Accounting Professionals' Perceptions of Their Firms' Ethical Environment. *J. Bus. Ethics* **2015**, *126*, 125–141. [\[CrossRef\]](#)
43. Richardson, A. The Accountancy Profession. In *The Routledge Companion to Critical Accounting*; Roslender, R., Ed.; Routledge: New York, NY, USA, 2018.
44. Kavanagh, M.H.; Drennan, L. What Skills and Attributes Does an Accounting Graduate Need? Evidence from Student Perceptions and Employer Expectations. *Account. Financ.* **2008**, *48*, 279–300. [\[CrossRef\]](#)
45. Marais, E.; Nel, C.; du Toit, C. Guidelines for the Development of a Professional Development Programme in Accordance with a Workshop, Support and Mentorship Model (WSM-Model). *Tydskr. Geesteswet.* **2015**, *55*, 75–91. [\[CrossRef\]](#)
46. Paisey, C.; Paisey, N.J. Protecting the Public Interest? Continuing Professional Development Policies and Role-Profession Conflict in Accountancy. *Crit. Perspect. Account.* **2020**, 67–68, 102040. [\[CrossRef\]](#)

47. Kaspina, R. Continuing Professional Development of Accounting and Auditing: Russian Experience and Challenges. *Procedia Soc. Behav. Sci.* **2015**, *191*, 550–553. [CrossRef]
48. Sucháček, J.; Koutský, J.; del Río, L.C.L.; Sed'a, P. Econometric Analysis of Integration of Selected New EU Member CEE Stock Markets with Global Stock Market and Eurozone: Impact of Global Financial Crisis. *Amfiteatru Econ.* **2021**, *23*, 824–842. [CrossRef]
49. Murphy, B. Professional Competence and Continuing Professional Development in Accounting: Professional Practice vs. Non-Practice. *Account. Educ.* **2017**, *26*, 482–500. [CrossRef]
50. Bonzanini, O.A.; Silva, A.; Cokins, G.; Gonçalves, M.J. The Interaction between Higher Education Institutions and Professional Bodies in the Context of Digital Transformation: The Case of Brazilian Accountants. *Educ. Sci.* **2020**, *10*, 321. [CrossRef]
51. Almasan, A.; Circa, C.; Dumitru, M.; Guse, R.G.; Mangiuc, D.M. Effects of Integrated Reporting on Corporate Disclosure Practices Regarding the Capitals and Performance. *Amfiteatru Econ.* **2019**, *21*, 572–589. [CrossRef]
52. Dumitru, M.; Dyduch, J.; Gușe, R.-G.; Krasodomska, J. Corporate Reporting Practices in Poland and Romania—An Ex-Ante Study to the New Non-Financial Reporting European Directive. *Account. Eur.* **2017**, *14*, 279–304. [CrossRef]
53. Dragomir, V.-D.; Dumitru, M.; Feleaga, L. The Predictors of Non-Financial Reporting Quality in Romanian State-Owned Enterprises. *Account. Eur.* **2022**, *19*, 1–42. [CrossRef]
54. Pizzi, S.; Rosati, F.; Venturelli, A. The Determinants of Business Contribution to the 2030 Agenda: Introducing the SDG Reporting Score. *Bus. Strat. Environ.* **2021**, *30*, 404–421. [CrossRef]
55. Hoppe, T.; Schanz, D.; Sturm, S.; Sureth-Sloane, C. The Tax Complexity Index—A Survey-Based Country Measure of Tax Code and Framework Complexity. *Eur. Account. Rev.* **2021**, 1–35. [CrossRef]
56. Campopiano, G.; De Massis, A. Corporate Social Responsibility Reporting: A Content Analysis in Family and Non-Family Firms. *J. Bus. Ethics* **2015**, *129*, 511–534. [CrossRef]
57. Steenkamp, N.; Northcott, D. Content Analysis in Accounting Research: The Practical Challenges. *Aust. Account. Rev.* **2007**, *17*, 12–25. [CrossRef]
58. Neuman, W.L. *Social Research Methods: Qualitative and Quantitative Approaches*, 7th ed.; Pearson Education Limited: Harlow, UK, 2014.
59. Guthrie, J.; Petty, R.; Yongvanich, K.; Ricceri, F. Using Content Analysis as a Research Method to Inquire into Intellectual Capital Reporting. *J. Intellect. Cap.* **2004**, *5*, 282–293. [CrossRef]
60. Worldometer How Many Countries in Europe? 2021. Available online: <https://www.worldometers.info/geography/how-many-countries-in-europe/> (accessed on 1 January 2022).
61. CIA The World Factbook. Available online: <https://www.cia.gov/the-world-factbook/> (accessed on 1 January 2022).
62. Bătae, O.M.; Dragomir, V.D.; Feleagă, L. Environmental, Social, Governance (ESG), and Financial Performance of European Banks. *J. Account. Manag. Inf. Syst.* **2020**, *19*, 480–501. [CrossRef]
63. World Bank New World Bank Country Classifications by Income Level. 2022. Available online: <https://blogs.worldbank.org/opendata/new-world-bank-country-classifications-income-level-2021-2022> (accessed on 1 January 2022).
64. Harvard Growth Lab The Atlas of Economic Complexity. Available online: <https://atlas.cid.harvard.edu/> (accessed on 1 August 2021).
65. Schwab, K. *The Global Competitiveness Report*; World Economic Forum: Geneva, Switzerland, 2019.
66. IMD. *World Digital Competitiveness Ranking 2022*; IMD World Competitiveness Center (WCC): Lausanne, Switzerland, 2022.
67. Botzem, S.; Quack, S. (No) Limits to Anglo-American Accounting? Reconstructing the History of the International Accounting Standards Committee: A Review Article. *Account. Organ. Soc.* **2009**, *34*, 988–998. [CrossRef]
68. Boikova, T.; Zeverte-Rivza, S.; Rivza, P.; Rivza, B. The Determinants and Effects of Competitiveness: The Role of Digitalization in the European Economies. *Sustainability* **2021**, *13*, 11689. [CrossRef]
69. Schoenfeld, J.; Segal, G.; Borgia, D. Social Cognitive Career Theory and the Goal of Becoming a Certified Public Accountant. *Account. Educ.* **2017**, *26*, 109–126. [CrossRef]
70. Kwilinski, A.; Vyshnevskiy, O.; Dzwigol, H. Digitalization of the EU Economies and People at Risk of Poverty or Social Exclusion. *J. Risk Financ. Manag.* **2020**, *13*, 142. [CrossRef]
71. Hopper, T. Making Accounting Degrees Fit for a University. *Crit. Perspect. Account.* **2013**, *24*, 127–135. [CrossRef]
72. Brown, P.; Preiato, J.; Tarca, A. Measuring Country Differences in Enforcement of Accounting Standards: An Audit and Enforcement Proxy. *J. Bus. Financ. Account.* **2014**, *41*, 1–52. [CrossRef]
73. Harakeh, M.; Lee, E.; Walker, M. The Differential Impact of IFRS Adoption on Aspects of Seasoned Equity Offerings in the UK and France. *Account. Eur.* **2019**, *16*, 106–138. [CrossRef]
74. Howcroft, D. Graduates' Vocational Skills for the Management Accountancy Profession: Exploring the Accounting Education Expectation-Performance Gap. *Account. Educ.* **2017**, *26*, 459–481. [CrossRef]
75. Bayerlein, L.; Timpson, M. Do Accredited Undergraduate Accounting Programmes in Australia Meet the Needs and Expectations of the Accounting Profession? *Educ. Train.* **2017**, *59*, 305–322. [CrossRef]
76. Dima, A.; Begu, L.; Vasilescu, M.; Maassen, M. The Relationship between the Knowledge Economy and Global Competitiveness in the European Union. *Sustainability* **2018**, *10*, 1706. [CrossRef]
77. Kitsantas, T.; Chytis, E. Blockchain Technology as an Ecosystem: Trends and Perspectives in Accounting and Management. *J. Theor. Appl. Electron. Commer. Res.* **2022**, *17*, 1143–1161. [CrossRef]

78. Huang, F.; No, W.G.; Vasarhelyi, M.A.; Yan, Z. Audit Data Analytics, Machine Learning, and Full Population Testing. *J. Financ. Data Sci.* **2022**, *8*, 138–144. [[CrossRef](#)]
79. European Commission. The Digital Economy and Society Index (DESI). In *Shaping Europe's Digital Future*; European Commission: Brussels, Belgium, 2021.
80. Polak, P.; Nelischer, C.; Guo, H.; Robertson, D.C. "Intelligent" Finance and Treasury Management: What We Can Expect. *AI Soc.* **2020**, *35*, 715–726. [[CrossRef](#)]
81. Delgado, F.J. On the Determinants of Fiscal Decentralization: Evidence From the EU. *Amfiteatru Econ.* **2021**, *23*, 206–220. [[CrossRef](#)]
82. OECD. *Tax Administration 2021: Comparative Information on OECD and Other Advanced and Emerging Economies*; OECD: Paris, France, 2021; ISBN 978-92-64-87076-5.
83. IFAC. *International Education Standards*, 2019th ed.; International Federation of Accountants: New York, NY, USA, 2019; ISBN 978-1-60815-427-2.
84. Alshurafat, H.; Al Shbail, M.O.; Mansour, E. Strengths and Weaknesses of Forensic Accounting: An Implication on the Socio-Economic Development. *JBSED* **2021**, *1*, 135–148. [[CrossRef](#)]
85. IAASB. *A Framework for Audit Quality. Key Elements That Create an Environment for Audit Quality*; International Auditing and Assurance Standards Board: New York, NY, USA, 2014.
86. Kleinman, G.; Lin, B.B.; Palmon, D. Audit Quality: A Cross-National Comparison of Audit Regulatory Regimes. *J. Account. Audit. Financ.* **2014**, *29*, 61–87. [[CrossRef](#)]
87. ACFE. *Report to the Nations. 2020 Global Study on Occupational Fraud and Abuse*; Association of Certified Fraud Examiners: Austin, TX, USA, 2020.