

Professional Qualification of Accountants in Czech Republic and Estonia: Are Their Certification Schemes Really Different?

JIŘÍ STROUHAL

Department of Financial Accounting and Auditing
University of Economics Prague
W. Churchill Square 4, 130 67 Prague 3
CZECH REPUBLIC
strouhal@vse.cz

KAIDI KALLASTE

Department of Financial Accounting
Tallinn University of Technology – Tallinn School of Economics and Business Administration
Akadeemia tee 3, 12618 Tallinn
ESTONIA

Abstract: - The knowledge level of professional accountants is emerging issue in each economy. Change of economic environment in Central and Eastern Europe in 90s of 20th century brought new requirements on professional accountants. This paper provides the comparative analysis between accounting certification schemes in the Czech Republic and Estonia (two emergent countries from the area of CEE), which are applied on professional accountants. Those schemes are also compared to international referential (qualifications ACCA, CPA Australia and AIA). The results show very high level of convergence between Czech model and international qualification schemes.

Key-Words: - Accounting Certification; International Education Standards; Association Coefficients; Professional Accountants; Czech Republic; Estonia

1 Introduction

According to [2] accounting is firmly established as an important profession and as a major employment destination. In addition they believe that there is some ambivalence regarding the image of the accounting profession as well as the status of accounting as an academic discipline.

The accounting profession desires a wider range of capabilities (over and above technical ability) that accounting graduates should possess, e.g. the ability to manage stress, an awareness of personal values, a basic knowledge of psychology, communication skills, motivation, persistence, empathy and a sensitivity to social responsibility [6]. The profession has a responsibility towards members to encourage the cultivation of some of these skills and not focus so severely on only technical ability. The current accounting education is often focused on the acquisition of knowledge and an over-emphasis on technical knowledge in order to pass the professional examinations, rather than focusing more on the utilisation of knowledge and more holistic attributes [1, 4].

This paper provides evidence about accounting certification schemes which are run in the Czech Republic and Estonia and compare them to international

schemes. For the level of compatibility there will be used association coefficients for similarity (harmonization) and dissimilarity measurement.

2 Accounting Certification Schemes

Numerous researches deal with information potential of measurement and accounting. Information systems are to assure enough information and transfer it according to a company's need, in relation to a company organization structure [8]. Knowledge is a fluid mix of framed experience, values, contextual information, expert insight and grounded intuition [5]. One portion supports day-to-day decision making; another part is used for tactical and strategically decision making [9].

2.1 Accounting Certification Schemes in the Czech Republic

2.1.1 Certification of Accounting Professionals

Due to the aim of some standardization and harmonization of the knowledge of the professional accountants, the certification system based on the British ACCA professional scheme was started in the Czech Republic in 1997. It was developed under the

supervision of the Czech Ministry of Finance, EU PHARE and of course the British ACCA. The education and examination system was arranged in order to follow the original International Education Guideline 9 (IEG 9). This Guideline with the UNCTAD Qualification Guideline (from 1983) has been taken into account while forming education and examination systems.

System of accounting certification in the Czech Republic is run via Institute of Accounting Certification who has an exclusive contract from Union of Accountants CR. The total number of adepts of certification is currently higher than 10 000 people, from whose 55 % people are certified (however majority of them holding the technician accountant level).

During the period 1997 – 2008 was used three level system of the certification in Czech which especially stresses the attention of the “triumvirate” Accounting – Law – Taxes. Each adept should fulfill the following papers (see Table 1):

Table 1. Certification Exams in 1997-2008

Technician level	
P1	Financial Accounting I
P2	Law System I
P3	Quantitative Methods and ICT I
P4	Economics
P5	Taxation I
Executive level	
P6	Financial Reporting
P7	Taxation II
P8	Managerial Finance
P9	Managerial Accounting
P10	Quantitative Methods and ICT II
P11	Law System II
Expert level	
P12	Financial Strategy
P13	IFRS
P14	Financial Analysis
P15	Auditing

Source: www.icu-praha.cz

All exams are in written-form and the precision ratio requested for passing all exams is 60 %.

To be able to enter this system it is necessary to be educated minimally at the high school (having a school-leaving exam). For the finalizing of all of the levels it's also necessary to fulfill the practical experience: 2 years for technician level, 4 years for executive level and 6 years for the expert level. On the other hand it is also possible to apply for the system of the controlled practice: 1 year for technician level, 2 years for executive level and 3 years for the expert level.

The certification scheme has been changed since 2008. It shall be stated that the International Education Standards (IES) stress or shape newly the tendencies which have been influencing the development of the accounting profession in the last decade (especially professional ethics, development of communication and interpersonal abilities, ICT etc.). Currently the system is based just on two levels: (i) certified accountant, and (ii) accounting expert. The exams are following (see Table 2):

Table 2. Certification Exams since 2008

Certified accountant level	
P1	Financial Accounting I
P2	Law System
P3	Quantitative Methods and ICT
P4	Management Economics
P5	Taxation
P6	Corporate Financial Reporting
P7	Professional Ethics
P8	Managerial Finance
Expert level	
P9	Managerial Accounting
P10	IFRS
P11	Advanced Financial Management
P12	Management
P13	Auditing

Source: www.icu-praha.cz

All exams are in written-form however the precision ratio requested for passing all exams is currently only 50 %. The length of practice is based on historical second, resp. third level; i.e. for certified accountant level 4 years and for expert level 6 years of practice.

2.1.2 Certification of Auditors

The **Chamber of Auditors Czech Republic (CACR)** was the only organisation for accounting professionals by the year 1997. This organisation is established by the Act on Auditors and all auditors shall be members of this Chamber. The main aim of CACR, member of IFAC and National Accounting Board, is to regulate the audit profession in the Czech Republic. Currently there is 1274 active auditors (CPAs) and 344 audit companies (“Big 4” included) in the Czech Republic.

All auditors shall follow the Code of Ethics and Continuous Professional Development (CPD). The length of CPD is 40 hours per year at least. CPD is organized by Institute of Education of CACR that is why auditors shall attend trainings mainly organized by this Institute. Other forms of CPD are “traditional”: (i) lecturing activities; (ii) professional publishing activities; and (iii) e-learning.

When applying for the CPA license, adepts shall fulfill following 11 exams (see Table 3):

Table 3. Auditor Qualification Scheme in CR

P1	Consolidation and Business Combination
P2	Taxation
P3	Law System
P4	Corporate Finance
P5	ICT and Statistics
P6	Auditing
P7	Microeconomics
P8	Macroeconomics
P9	Managerial Accounting
P10	Financial Reporting
P11	Methodology of Audit (Auditing II)

Source: www.kacr.cz

All exams are in written-form, however after passing all eleven exams, candidates have to fulfill last oral exam concluding all topics. The precision ratio requested for passing all exams is 60 %. To be able to join the scheme adept has to have at least three years of practice as an assistant auditor.

2.2 Accounting Certification in Estonia

Certification of professional accountants in Estonia runs via Estonian Accounting Association (EAA). EAA was established in 1996 with the will to contribute to the development and improvement of the accounting profession in Estonia by implementing an accounting professional certification system. Membership within EAA is voluntary, but what is very interesting is the fact, that to be member of this body there is required any qualification. Currently EAA has more than 700 members.

Accounting certification in Estonia is younger than the Czech one starting in 2004. Currently it is a three-level system – (i) technician accountant; (ii) accountant; (iii) expert level. Currently there are any candidates within the highest expert level. For the accountant level there is required two years of practice and for the expert level there is required five years of professional experience. The certificate received more than 1 100 accountants, however 95 % of them are holders of the technician accountant certificate.

Technician accountant level is very popular in Estonia by the graduates from high school. In case, that the candidates are up to one year after the graduation, the exam is for them free of charge.

What is different from Czech certification scheme (as well as from international ones) is the fact that there is only one exam for each level. All those exams are based in the following area of knowledge:

- general knowledge

- organizational and business knowledge
 - Business economics
 - Basic Terminology
 - Entrepreneurship
 - Marketing
 - Business Finance
 - Business Mathematics
 - Basics of International Business
 - Statistics
 - Terminology
 - Statistical surveys
 - Preparation and analysis of statistical tables
 - Methods of statistics
 - Business ethics
- information technology knowledge
 - Communication skills
 - Intellectual skills
 - The usage of office and network systems
 - Working environment
- accounting and accounting related knowledge:
 - Accounting Terminology
 - Estonian Accounting Act
 - Legislation related to Accounting
 - Accountant's Professional Ethics
 - Principles of Organization of Accounting
 - Preparation and Preserve of Accounting Source Documents
 - Documentation of Business Transactions
 - Methods of Accounting
 - Principles of Financial Reporting
 - Preparation of Annual Report
 - Preparation of Consolidated Statements
 - Financial Statement Analysis
 - Cost Accounting
 - Management Accounting
 - Accounting for Taxes
 - Principles of Internal and External Audit
 - Preparation of Business Plans
 - Accounting Consultation
 - Business Software
 - Budgeting

There is expected basic or intermediate knowledge for the technician level; intermediate or advance knowledge for the accountant level; and advance (expert) knowledge for the highest level from all above mentioned disciplines.

Tests are in written form and there is expected precision ratio of 75 % for technical accountant level and 60 % for the accountant level.

2.2.1 Certification of Auditors

Estonian Board of Auditors (EBA) was established in 1999 and the membership is based on Authorized Public Accountants Act. As well as in the Czech Republic the membership is obligatory to be able to act as an auditor.

Currently there are 363 auditors in Estonia. Being a part of European Union, auditors receiving a license elsewhere in E.U. may practice their profession in Estonia after fulfilling the exam from current Estonian legislation.

Currently the auditor qualification scheme in Estonia comprises from following six exams (see Table 4):

Table 4. Auditor Qualification Scheme in Estonia

P1	Auditing
P2	Financial Accounting
P3	Management Accounting
P4	Taxation
P5	Corporate Finance
P6	Legal Bases for the Activity of Legal Persons

Source: www.auditorkogu.ee

2.3 International Schemes

There shall be mentioned at least following leading accounting certification scheme which are valid and run round the world: (i) ACCA, (ii) AIA, and (iii) CPA. All three systems are possible to study worldwide, so there may be seen students from Czech or Estonia. In the Czech Republic is very popular ACCA qualification scheme, Estonian accounting professionals prefer AIA qualification.

2.3.1 ACCA

Among the highly recognized accounting certification schemes belongs the scheme of the Association of Chartered Certified Accountants (ACCA). It is a British based professional body founded in 1904, which provides accounting certification worldwide having more than 140 000 members in 170 countries.

Currently ACCA runs two level scheme consisting of fundamental and professional level. Within the fundamental level there might be applied certain exemptions from the exams, e.g. Czech accounting experts may receive this exemption for all nine papers of fundamental level and they need to pass just exams from professional level. The ACCA scheme has the following structure (see Table 5):

Table 5. ACCA Professional Scheme

Fundamental level	
F1	Accountant in Business
F2	Management Accounting
F3	Financial Accounting
F4	Corporate and Business Law
F5	Performance Management

F6	Taxation
F7	Financial Reporting
F8	Audit and Assurance
F9	Financial Management
Professional level	
P1	Professional Accountant
P2	International Corporate Reporting
P3	Business Analysis
P4*	Advanced Financial Management
P5*	Advanced Performance Management
P6*	Advanced Taxation
P7*	Advanced Audit and Assurance

Source: www.accaglobal.com

Within the professional level there is an obligation to pass papers P1-P3 and to pass two from papers P4-P7. A great competitive advance of ACCA is in the fact that the foreigners are able to pass their exams in their country (e.g. Czech adepts write their exams in Prague). All exams are in written form and the required precision ratio is 50 %.

2.3.2 AIA

The Association of International Accountants (AIA) is another accounting certification provider based in the United Kingdom. AIA was founded in 1928 and nowadays has their members in more than 85 countries.

AIA runs three level scheme consisting of one foundation level and two professional levels (see Table 6):

Table 6. AIA Professional Scheme

Foundation level	
F1	Financial Accounting I
F2	Business Economics
F3	Management Accounting I
F4	Law
F5	Auditing and Taxation
F6	Information Processing
Professional level I	
P1	Auditing
P2	Company Law
P3	Management Information
P4	Business Management
P5	Financial Accounting II
P6	Management Accounting II
Professional level II	
P7	Financial Accounting III
P8	Financial Management
P9	Professional Practice
P10	Taxation and Tax Planning

Source: www.aiaworldwide.com

AIA (same like ACCA) provides an opportunity for foreigners to pass the exams in their country. All exams are in written form and the required precision ratio is 50 %.

2.3.3 CPA Australia

Certified Practising Accountants Australia (CPA) has been founded in Australia in 1952 from following bodies: Commonwealth Institute of Accountants (est 1886), Federal Institute of Accountants (est 1894). Its certification is well-known in Asia-Pacific area. CPA’s system consists just from two levels (see Table 7):

Table 7. CPA Australia Professional Scheme

Mentor Program	
P1	Academia
P2	Auditing/Assurance
P3	Financial Accounting
P4	Financial Planning
P5	Information Technology
P6	Insolvency and Reconstruction
P7	Management Accounting
P8	Taxation
P9	Treasury/Financial Risk Management
CPA Status	
P10	Reporting and Professional Practice
P11	Corporate Governance and Accountability
P12	Business Strategy and Leadership

Source: www.cpaaustralia.com.au

There shall be stated that this certification scheme is not widely known and spread within Central and Eastern Europe.

3 Research Design

An empirical analysis is performed on accounting qualification schemes for professional accountants. It involves closely analyzing the foresights of the national professional accounting certification schemes and global ones (ACCA, AIA, CPA Australia). The similarities and dissimilarities between the considered certification schemes are therefore determined.

The most frequently used methods in trade literature when analyzing the level of comparison between systems are Jaccards’ association coefficients [7]. The Jaccard coefficient [3] is defined as the size of the intersection divided by the size of the union of the sample sets:

$$J(A,B) = \frac{|A \cap B|}{|A \cup B|} \quad (1)$$

The Jaccard distance is complementary to the Jaccard coefficient and measures the dissimilarities. It is obtained by dividing the difference of the sizes of the

union and the intersection of two sets by the size of the union:

$$J_d(A,B) = 1 - J(A,B) = \frac{|A \cup B| - |A \cap B|}{|A \cup B|} \quad (2)$$

There was identified a series of elements regarding accounting exams which we then organized within three groups as follows: (i) exams within basic level; (ii) exams within specialized level; and (iii) professional experiences. The two considered coefficients offer the possibility of quantifying both the association degree and the dissimilarity degree between different sets of accounting certification schemes taken into consideration for analysis. So as to dimension the association or compatibility level, the calculation formula for the Jaccards’ coefficients shows as follows:

$$S_{ij} = \frac{a}{a + b + c} \quad (3)$$

$$D_{ij} = \frac{b + c}{a + b + c} \quad (4)$$

where: S_{ij} represents the similarity degree between the two sets of analyzed accounting certification schemes; D_{ij} represents the degree of dissimilitude or diversity between the two sets of analyzed accounting certification schemes; a – the number of elements which take the 1 value for both sets of schemes; b – the number of elements which take the 1 value within the j -set of schemes and the 0 value for the i -set of schemes; c – the number of elements which take the 1 value within the i -set of regulations and the 0 value for the j -set of schemes.

To receive higher robustness of the results we have concluded the testing of similarities and dissimilarities using Roger-Tanimoto coefficient and Lance-Williams coefficient. The calculation formulas are following:

$$R\&T = \frac{d + a}{d + a + 2(b + c)} \quad (5)$$

$$L\&W = \frac{b + c}{2a + b + c} \quad (6)$$

where: $R\&T$ represents Roger-Tanimoto coefficient (for measurement of the similarity level); $L\&W$ represents Lance-Williams coefficient (for measurement of dissimilarity level); and d represents the number of elements which take the 0 value for both sets of schemes.

4 Results

As mentioned before, there has been performed comparative analysis of accounting schemes and tested their compatibility. For measurement of similarities have been used Jaccard similarity coefficient and Roger-Tanimoto coefficient; for measurement of dissimilarities have been used Jaccard dissimilarity coefficient and

Lance-Williams coefficients. Results are provided within Tables 8 and 9.

Table 8. Tests of Similarity

Scheme		CZE	EST	ACCA	AIA	CPA
CZE	JC	1.0000	0.6667	0.7333	0.9286	0.7333
	RT	1.0000	0.5238	0.6000	0.8824	0.6000
EST	JC	0.6667	1.0000	0.5333	0.6000	0.4375
	RT	0.5238	1.0000	0.3913	0.4545	0.2800
ACCA	JC	0.7333	0.5333	1.0000	0.7857	0.7143
	RT	0.6000	0.3913	1.0000	0.6842	0.6000
AIA	JC	0.9286	0.6000	0.7857	1.0000	0.7857
	RT	0.8824	0.4545	0.6842	1.0000	0.6842
CPA	JC	0.7333	0.4375	0.7143	0.7857	1.0000
	RT	0.6000	0.2800	0.6000	0.6842	1.0000

Source: own analysis

Table 9. Tests of Dissimilarity

Scheme		CZE	EST	ACCA	AIA	CPA
CZE	JC	0.0000	0.3333	0.2667	0.0714	0.2667
	LW	0.0000	0.2000	0.1538	0.0370	0.1538
EST	JC	0.3333	0.0000	0.4667	0.4000	0.5625
	LW	0.2000	0.0000	0.3043	0.2500	0.3913
ACCA	JC	0.2667	0.4667	0.0000	0.2143	0.2857
	LW	0.1538	0.3043	0.0000	0.1200	0.1667
AIA	JC	0.0714	0.4000	0.2143	0.0000	0.2143
	LW	0.0370	0.2500	0.1200	0.0000	0.1200
CPA	JC	0.2667	0.5625	0.2857	0.2143	0.0000
	LW	0.1538	0.3913	0.1667	0.1200	0.0000

Source: own analysis

From the presented analysis could be seen, that there is a high level of compatibility of Czech accounting certification scheme with international ones. As a closest scheme might be considered AIA professional scheme (comparable for 92.86 % using Jaccard coefficient, resp. 88.24 % using Roger-Tanimoto coefficient), which is less popular than ACCA in the Czech Republic. Czech scheme and AIA scheme are moreover the closest from the performed analysis.

The closest certification scheme to the Estonian one is Czech accounting certification scheme (66.67 % compatibility using Jaccard coefficient, resp. 52.38 % using Roger-Tanimoto coefficient).

High level of compatibility could be also seen between British schemes (ACCA and AIA).

5 Conclusion

There should be stated that the professional qualification is not requested by labour market. That's why that only about 10 % of all professional accountants in the Czech Republic and Estonia are certificate holders. As a biggest advantage of Czech certification scheme shall be stated the basement on ACCA professional scheme and the compatibility with the certification scheme for external

auditors. On the other hand in Estonia any of levels is equal to auditors' certification system and there are provided any exemptions for professional accountants.

Professional accounting certification schemes in the Czech Republic and Estonia need to be more promoted to the whole accounting profession as well as to employers.

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