



REPORT OF THE

CPA Examination Review Board

on the 2012 Uniform CPA Examination and International Qualification Exam

CPA EXAMINATION REVIEW BOARD

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REPORT OF THE CPA EXAMINATION REVIEW BOARD

To the Boards of Accountancy of the Fifty-Five Jurisdictions of the United States of America:

We have reviewed and evaluated the policies and procedures utilized in the preparation, grading and administration of the Uniform CPA Examination and the International Qualification Examination for the year ended December 31, 2012.

Our review and evaluations were conducted for the purpose of determining the appropriateness of those policies and procedures for reliance by the Boards of Accountancy of the fifty-five jurisdictions of the United States of America in discharging their responsibility to test the qualifications of candidates for licensure as Certified Public Accountants.

Based on our review and evaluations, we believe that the Boards of Accountancy may rely on the Uniform CPA Examination and the International Qualification Examination in carrying out their licensing responsibilities for the year ended December 31, 2012.

This report is intended solely for the information and use of the Boards of Accountancy, and is not intended to be and should not be used by anyone other than the specified parties.

CPA Examination Review Board

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May 30, 2013



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The annual report of the CPA Examination Review Board is a restricted report intended solely for the information and use of the Boards of Accountancy. It is not intended to be and should not be used by anyone other than the specified parties.



SECTION I: CPA EXAMINATION REVIEW BOARD

CREATION AND PURPOSE

Few Boards of Accountancy have the resources to evaluate the psychometric quality and content of a licensing examination or to review its preparation, scoring and administration. Moreover, few Boards of Accountancy have the resources to evaluate the security and integrity of the electronic architecture and data communications surrounding a computer-based test (CBT). Because such evaluations and reviews are highly technical and time consuming activities, they can be performed more effectively by a single agency acting on behalf of all Boards of Accountancy. Recognizing this need, the CPA Examination Review Board (ERB) was established and reports directly to the Boards of Accountancy.

CHARGE FROM THE BOARDS OF ACCOUNTANCY

The ERB shall review, evaluate and report on the appropriateness of the policies and procedures utilized in the preparation, grading and administration of the Uniform CPA Examination and other examinations in general use by the Boards of Accountancy for the licensing of Certified Public Accountants. In carrying out its responsibilities the ERB shall examine such records and make such observations, inspections and inquiries, as it deems necessary. The ERB shall report annually to the Boards of Accountancy.



SECTION II: UNIFORM CPA EXAMINATION AND INTERNATIONAL QUALIFICATION EXAMINATION

UNIFORM CPA EXAMINATION

The Uniform CPA Examination (Examination) is administered pursuant to a contract between the National Association of State Boards of Accountancy (NASBA), on behalf of its constituent members, the Boards of Accountancy, the American Institute of CPAs (AICPA), and Prometric.

NASBA acts as the central clearinghouse to which all Boards of Accountancy submit information on eligible candidates and from which all Boards of Accountancy receive advisory scores and other Examination data.

The AICPA determines the content of the Examination, prepares the items / simulations, determines the method of scoring the Examination (including the choice of psychometric model), performs and coordinates the scoring of all test item formats including simulations and constructed response exercises, provides all quality control systems for test scoring, prepares advisory scores, and conducts statistical analyses of Examination results.

Prometric operates a network of computer-based test centers where candidates take the Examination.

INTERNATIONAL QUALIFICATION EXAMINATION

The purpose of the International Qualification Examination (IQEX) is to facilitate the U.S. CPA qualification process for those accounting professionals from other countries whose professional bodies have entered into mutual recognition agreements with the U.S. accounting profession and to provide reasonable assurance to boards of accountancy that those who pass the examination possess the level of technical knowledge and skills necessary for licensure to protect the public interest.

For the 2012 examination, such agreements were in effect with the Canadian Institute of Chartered Accountants (CICA), the Hong Kong Institute of Certified Public Accountants (HKICPA), the Institute of Chartered Accountants in Australia (ICAA), the Instituto Mexicano De Contadores Públicos (IMCP) in Mexico, New Zealand Institute of Chartered Accountants (NZICA), and Chartered Accountants Ireland (CAI). This was the first administration to include candidates from HKICPA.

IQEX is intended to test differences between the Federal Taxation, Business Law, and Ethics practices of the United States and the relevant practices of other countries. The assumption is that accounting professionals from other countries have already demonstrated competence in all of the areas that are equivalent in both the candidate's home country and the United States.



SECTION III: DESCRIPTION OF EXAMINATION REVIEW BOARD PROCEDURES

UNIFORM CPA EXAMINATION

DEVELOPMENT

The Examination is developed by the AICPA Examinations Team in accordance with Content Specification Outlines (CSOs) and Skills Specification Outlines (SSOs) established by the AICPA Board of Examiners (BOE). The CSOs/SSOs used in the 2012 Examination are based on the year 2008 Practice Analysis. Examination content is reviewed and modified by the Content Preparation Subcommittees and is given final approval by the Content Committee. We reviewed and evaluated the development of the Examination. Our review included conferences with members of the Examinations Team, observations of the activities of the BOE, its Content Committee and Content Preparation Subcommittees, and interviews with the AICPA Examinations Team leadership and staff. We reviewed and evaluated systems security controls and compliance with certain administrative policies and procedures.

We compared test items to the CSOs/SSOs to determine compliance with the approved guidelines. We also reviewed a sample of test items for content accuracy and scoring accuracy.

PRACTICE ANALYSIS

The Practice Analysis Oversight Group established by the BOE designed and carried out an updated Practice Analysis, which was completed in 2008 as a basis for the CSOs/SSOs used in the Uniform CPA Examination (CBTe) launched in January 2011. In connection with our review and evaluations completed for the year ended December 31, 2008, we monitored and reviewed each major stage of the Practice Analysis, including the overall framework for this update and its oversight, the technical research design of the study, the sampling procedures used including defining the target population and the sampling frame, the design

and use of the matrix sampling methods, the planning and execution of the computer-based survey, and the statistical analysis of the survey results and reporting thereof. We evaluated the statistical quality indices for the results, such as the standard errors of the ratings, for the main sample and additional subsamples. We monitored and reviewed the work of the Content Committee, which used the Practice Analysis results to recommend revisions and additions/deletions to the CSOs/SSOs. Finally, we reviewed the work of the BOE in finalizing the updated content and skill statements based on all of this empirical and judgmental Practice Analysis work.

STANDARD SETTING

The AICPA conducted passing score studies to establish new standards for the CBTe launched in 2011. In determining the new passing scores, the AICPA used sound scientific absolute-standard setting methods based on solid research; the methods used have a long history of use by high-stakes testing agencies and had no obvious bias. The data were collected systematically and statistical analyses were performed by psychometricians to ensure that the standard-setting data were accurate and reproducible. The panel of experts who participated in the studies recommended a passing score to the BOE. The BOE thoroughly discussed the panelists' recommendations and approved the new passing scores.

The ERB performed a review of the standard setting process during the 2011 review. We reviewed the standard setting plan and design, observed the structure of the process, attended several standard setting panel discussions as well as the BOE deliberations and approval of the new passing scores. In addition we reviewed the standard setting technical report in support of the passing scores.



NATIONAL CANDIDATE DATABASE

We reviewed and evaluated the security policies and procedures of NASBA as related to the National Candidate Database (NCD) and the Gateway System. We tested the accuracy of the database processes and receipt and transmission of information into and out of this database.

DELIVERY

The Examination is delivered at Prometric test sites located throughout the jurisdictions of the Boards of Accountancy as well as selected international locations. We reviewed and evaluated Prometric policies, procedures and security controls relative to the Examination. We visited selected Prometric sites domestically, and observed the delivery of the Examination. Additionally, we electronically observed the delivery of the Examination at international sites. We also reviewed and evaluated security controls and compliance with administrative policies and procedures.

SCORING

We reviewed and evaluated the policies and procedures followed in the scoring and reporting of results of the Examination. We rescored a sample of candidates' response files for accuracy. We also followed a sample of scores through to the NCD. The psychometric consultant reviewed and evaluated the validity evidence for the Examination, including psychometric data from the tests, quality control policies and procedures, and statistical analyses of the Examination results.

POLICIES AND PROCEDURES OF THE BOARD OF EXAMINERS AND THE EXAMINATIONS TEAM

We reviewed and evaluated the policies, procedures and security controls of the BOE and Examinations Team relative to the development and scoring of the Examination. We also assessed the work and reports of AICPA Internal Audit relative to the security of the

Examination.

PSYCHOMETRIC ASSESSMENT

The Psychometric Consultant assisted us in reviewing and evaluating the policies and procedures employed by the AICPA Examinations Team in preparing and scoring the Examination. We evaluated the psychometric model used to calibrate and score the computer-adaptive tests and many other important psychometric characteristics of the Examination such as the psychometric properties of simulations, candidate ability routing through adaptive testlets, the standard setting methods utilized by the BOE, and the passing scores established thereby. We also reviewed the rater reliability of those constructed response written communication exercises which were scored by human raters, the accuracy and consistency of the computer scoring of these written communication exercises, the correlations among test sections and item formats, and many other sources of validity evidence of the Examination.

TECHNOLOGY ASSESSMENT

We evaluated and relied upon a comprehensive analysis and evaluation of the security, processing integrity and sustainability of the communications and systems of all parties. We performed assessments based on guidelines and standards set forth in CoBit, SSAE 16 guidelines, the AICPA/CICA Trust Services Principles and Criteria and on industry best practices. The evaluation encompassed the Examination as a whole and many different sources of evidence were reviewed to support the reasonableness of the overall systems integrity, security and sustainability of the Examination. The Information Technology Consultant assisted us in reviewing and evaluating the policies, procedures and controls employed by the AICPA, NASBA and Prometric.



INTERNATIONAL QUALIFICATION EXAMINATION

Beginning with the November 2012 administration, the IQEX transitioned to a new format that uses an administration of the Uniform CPA Examination's Regulation section as the required examination. As part of the transition, the IQEX no longer has a

dedicated content specification outline (CSO) and instead adopts the content outlined in the Regulation section of the Uniform CPA Examination CSOs. Therefore, we reviewed and evaluated the same procedures for IQEX as we did for the CPA Examination. We also reviewed and evaluated the 2012 IQEX technical report, which was provided by NASBA.

SECTION IV: REVIEW AND EVALUATION FRAMEWORK OF THE EXAMINATION REVIEW BOARD

The "Twelve Steps for Effective Test Development" as described in the *Handbook of Test Development* (Downing, Haladyna, 2006) provide the framework for our review and evaluations. The "Twelve Steps for Effective Test Development" are based on the *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 1999). These steps are described in detail in Exhibit 1.

"The *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 1999) represent the consensus opinion concerning all major policies, practices, and issues in assessment. This document, revised every decade or so, is sponsored by three North American professional associations concerned with assessment and its application and practice: The American Educational Research Association (AERA), the American Psychological Association (APA), and the National Council on Measurement in Education (NCME)" (*Assessment in Health Professions Education*, Downing and Yudkowsky, 2009, p. 2).

In summary, the twelve steps cover the following areas:

1. Overall Plan
2. Content Definition (Practice Analysis)
3. Test Specifications: Blueprinting the Test (CSOs and SSOs)
4. Item Development
5. Test Design and Assembly
6. Test Production
7. Test Administration
8. Scoring Test Responses
9. Establishing Passing Scores (Standard Setting)
10. Reporting Test Results
11. Item Banking
12. Test Technical Reports



SECTION V: MEMBERS OF THE CPA EXAMINATION REVIEW BOARD

Nicholas J. Mastracchio, Jr., Ph.D. CPA. Chair of the ERB. Member of the ERB since 2009. University Professor, individual practitioner; Past Chair and Member of the New York State Board of Accountancy; Past Managing Partner C.L. Marvin and Company CPAs; Past Member of the AICPA Board of Examiners; Past Member of the Auditing Standards Board; Past member of NASBA committees including Education, and Nominating committees; Member of the CPA Journal Editorial Board; Retired Arthur Andersen Alumni Professor of Accounting University at Albany.

David A. Vaudt, CPA. Vice-Chair of the ERB. Member of the ERB since 2005. Iowa State Auditor; Past Chair and Member of the Iowa Accountancy Examining Board; Past Chair and Member of the Board of Directors of NASBA; Served as Chair or Member of Various Committees of NASBA, the AICPA and the Iowa Society of Certified Public Accountants; Past Treasurer and Member of the Supreme Court of Iowa Client Security and Attorney Disciplinary Commission.

Sandra R. Wilson, CPA, CFE, MAFF. Immediate Past Chair of the ERB. Member of the ERB since 2006. Shareholder, Wilson & Wilson CPAs, Inc.; Past Member of the Alaska State Board of Public Accountancy; Served as a Member of the NASBA Board of Directors and as Pacific Regional Director; Past Chair NASBA Audit and Relations with Member Boards Committees; Former Member of NASBA Ethics and Continuing Professional Educations Committees; Past Officer and Member of the Alaska Society of Certified Public Accountants (AKCPA) Board of Directors; Past Chair and Member of Various AKCPA Committees.

O. Whitfield Broome, Jr., Ph.D., CPA. Member of the ERB since 2012. Kaulback Professor Emeritus of Commerce and Professor of Law at the University of Virginia. Past Interim Dean, Associate Dean for Academic Affairs, and Accounting Area Coordinator for the McIntire School of Commerce, University of Virginia; Past visiting appointments at the University of Texas at Austin, Duke University, Tulane University, and Lancaster University (England); Past Chair, Vice Chair, and member of the Virginia Board of Accountancy; Past member of the AICPA Board of Examiners, as well as past Chair of the BOE's State Board Committee and member of its Executive Committee; Past member of NASBA's Examinations Committee, Education Committee, and CPA Examination and Administration Committee; Past Executive Director and Trustee of the Institute of Chartered Financial Analysts; Past Chair and member of the Board of Regents of the College for Financial Planning; Past member of the Board of Directors of the College for Financial Planning–United Kingdom; and Past member of the Board of Directors of the International Board of Standards and Practices for Certified Financial Planners.

Ronald E. Nielsen, CPA/ABV/CFF, ASA, CFE, CVA, CGMA. Member of the ERB since 2012. Partner of CliftonLarsonAllen, LLP, Current member of the AICPA Joint Trial Board; Past Chair and member of the Iowa Accountancy Examining Board; Past member of the AICPA Board of Examiners; Past Chair and member of the AICPA Exam Content Committee; Current member of the NASBA Uniform Accountancy Act Committee; Past member of the NASBA Education Committee; Past Chair and member of the AICPA exam regulation sub-committee; Past member of the Practice Analysis Oversight Group.



SECTION VI: CPA EXAMINATION REVIEW BOARD STAFF

Onita S. Porter, CPA, CGMA. CPA Examination Review Board Director. Former Senior Financial Reporting Analyst, LifePoint Hospitals, Inc.; Former Auditor, Deloitte & Touche LLP; Former English Teacher and Yearbook Advisor for Smyrna High School and Blackman High School in Rutherford County, TN. Member of the American Institute of Certified Public Accountants.

Shawn Jackson, CPA, CISA, CITP, CGMA. CPA Examination Review Board Audit Manager. Former Internal Auditor, Deloitte USA LLP; Former Consultant, Deloitte & Touche LLP. Member of the American Institute of Certified Public Accountants.

SECTION VII: CONSULTANTS PROVIDING SUPPORT TO THE CPA EXAMINATION REVIEW BOARD

Steven M. Downing, Ph.D. Consultant to the ERB since 1995. Emeritus Associate Professor, University of Illinois at Chicago, Department of Medical Education; Psychometric Consultant for Various Credentialing Organizations; Former Senior Psychometrician, American Board of Internal Medicine and Former Director and Senior Program Manager, Institute for Clinical Evaluation; Former Assistant Vice President and Director, Department of Client Programs, National Board of Medical Examiners; Former Director, Department of Health Programs, American College Testing Program; Member, American Educational Research Association and National Council on Measurement in Education.

Michael W. Harnish, CPA, CITP, CISA, CDP, EnCE. Consultant to the ERB since 2003. Retired; Past COO/CIO of EthicsPoint, Inc., Fios, Inc., CPA2BIZ, Dickinson Wright PLLC; Past President and CEO, Technology Consulting Partners LLC; Former Associate, Technology Consulting Solutions, Plante & Moran; Former Partner, Crowe, Chizek and Company, Past Director of Consulting Services, Lotus Development Corp.; Former Member of Various AICPA Committees Including the Computerization Implementation Committee and Chair of the Information Technology Executive Committee; Former Member of the Illinois CPA Society Board of Directors.



EXHIBIT 1

Twelve Steps for Effective Test Development

<i>Steps</i>	<i>Example Test Development Tasks</i>	<i>Example Related Standards</i>
1. Overall plan	Systematic guidance for all test development activities; construct; desired test interpretations; test format(s); major sources of validity evidence; clear purpose; desired inferences; psychometric model; timelines; security; quality control	Standard 1.1 Standard 3.2 Standard 3.9
2. Content definition	Sampling plan for domain/universe; various methods related to purpose of assessment; essential source of content-related validity evidence; delineation of construct	Standard 1.6 Standard 3.2 Standard 3.11 Standard 14.8
3. Test specifications	Operational definitions of content; framework for validity evidence related to systematic, defensible sampling of content domain; norm or criterion referenced; desired item characteristics	Standard 1.6 Standard 3.2 Standard 3.3 Standard 3.4 Standard 3.11
4. Item development	Development of effective stimuli; formats; validity evidence related to adherence to evidence-based principles; training of item writers, reviewers; effective item editing; CIV owing to flaws	Standard 3.6 Standard 3.7 Standard 3.17 Standard 7.2 Standard 13.18
5. Test design and assembly	Designing and creating test forms; selecting items for specified test forms; operational sampling by planned blueprint; pretesting considerations	Standard 3.7 Standard 3.8
6. Test production	Publishing activities; printing or CBT packaging; security issues; validity issues concerned with quality control	N/A
7. Test administration	Validity issues concerned with standardization; ADA issues; proctoring; security issues; timing issues	Standard 3.18 Standard 3.19 Standard 3.20 Standard 3.21
8. Scoring test responses	Validity issues: quality control; key validation; item analysis	Standard 3.6 Standard 3.22
9. Passing scores	Establishing defensible passing scores; relative vs. absolute; validity issues concerning cut scores; comparability of standards; maintaining constancy of score scale (equating, linking)	Standard 4.10 Standard 4.11 Standard 4.19 Standard 4.20 Standard 4.21
10. Reporting test results	Validity issues: accuracy, quality control; timely; meaningful; misuse issues; challenges; retakes	Standard 8.13 Standard 11.6 Standard 11.12 Standard 11.15 Standard 13.19 Standard 15.10 Standard 15.11
11. Item banking	Security issues; usefulness, flexibility; principles for effective item banking	Standard 6.4
12. Test technical report	Systematic, thorough, detailed documentation of validity evidence; 12-step organization; recommendations	Standard 3.1 Standard 6.5

Abbreviations: ADA, Americans with Disabilities Act; CBT, computer-based testing; CIV, construct-irrelevant variance.



ERB

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