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# Uniform CPA examination content specifications update study: general business knowledge required by CPAs in public accounting

Patricia M. Muenzen

Sandra Greenberg

Ellen A. Sawtell

American Institute of Certified Public Accountants. Board of Examiners. Content Oversight Task Force

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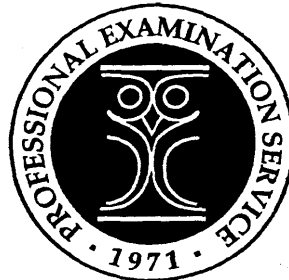
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**Uniform CPA Examination Content Specifications Update Study:  
General Business Knowledge Required by CPAs in Public Accounting**

Prepared for

Board of Examiners' Content Oversight Task Force  
American Institute of Certified Public Accountants  
Harborside Financial Center  
201 Plaza Three  
Jersey City, NJ 07311-3881



Prepared by

Patricia M. Muenzen  
Sandra Greenberg  
Ellen A. Sawtell  
Professional Examination Service  
Department of Research and Development  
475 Riverside Drive  
New York, NY 10115

May 2000

**Board of Examiners' Content Oversight Task Force**

Richard Isserman, CPA, Chair

Sarah G. Blake, CPA

Lamar Harris, CPA

Louis W. Matusiak, Jr., CPA

Florine N. Nath, CPA

Gary O'Krent, CPA

Don M. Pallais, CPA

James G. Sprinkel, CPA

David A. Vaudt, CPA

Jan R. Williams, CPA, PhD

**AICPA Staff**

Arleen R. Thomas, CPA, Vice President, Professional Standards & Services

Craig Mills, PhD, Director of Examinations

James D. Blum, CPA, PhD, Director, Examinations Division

Bruce H. Biskin, PhD, Senior Psychometrician

Ahava Z. Goldman, CPA, Senior Technical Manager

**Professional Examination Service**

Patricia M. Muenzen, MA, Assistant Director of Research Programs

Sandra Greenberg, PhD, Director of Research Programs

Ellen A. Sawtell, BA, Research Program Associate

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## Preface

On behalf of the Professional Examination Service (PES), we are pleased to have conducted this very important study for the American Institute of Certified Public Accountants (AICPA). This report summarizes general business knowledge (GBK) used by CPAs in public accounting in the context of auditing and financial accounting and reporting practice.

Information included in this report were obtained from the following sources: the GBK Working Group of the AICPA's Content Oversight Task Force, in-depth critical incident telephone interviews, focus panel discussions, a pilot survey, and a survey of 1,000 CPAs in public practice and 200 CPAs in other-than-public accounting.

A content-based approach was used to systematically delineate the impact of GBK on auditing and financial accounting and reporting practice. The delineation of general business knowledge included the elements of the Business Law and Managerial Accounting Content Specification Outlines (CSOs) for the Uniform CPA examination. The delineation was validated, and was integrated with the Audit and Financial Accounting and Reporting CSOs through the conduct of a linking task. As a result, the findings represent a dynamic description of the relationship between business knowledge and its application in the performance of audit tasks and financial accounting and reporting activities, and provide a means of assessing business knowledge in the context of these two areas of accounting practice.

We are indebted to the GBK subcommittee of the AICPA's Content Oversight Task Force. Its members, Richard Isserman, CPA; Florine N. Nath, CPA; and Gary O'Krent, CPA, worked closely with us during the conduct of the study. We also recognize the substantial contributions of the AICPA staff, especially Ahava Goldman, CPA; and Bruce Biskin, PhD; and of the CPAs who participated in interviews, focus panel discussions, the pilot test of the survey, the completion of the survey, and the linking task. We also wish to thank Awo Korantemaa Atanda, at PES. Her thoughtful administrative and technical support contributed to the success of the project.

Patricia M. Muenzen, MA, Assistant Director of Research Programs, PES  
Sandra Greenberg, PhD, Director of Research Programs, PES  
Ellen A. Sawtell, BA, Research Program Associate, PES

New York, New York  
May 2000

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## **1. Executive Summary**

In 1996, the AICPA Board of Examiners Content Oversight Task Force (COTF) appointed a General Business Knowledge (GBK) Working Group to examine how the Uniform CPA Examination might incorporate an assessment of the business knowledge required of CPAs in public accounting. The GBK Working Group drafted a preliminary delineation of the business knowledge required of CPAs, which included the managerial accounting and business law portions of the Uniform CPA Examination content specification outline. In 1998, the AICPA contracted with PES to review and amplify the draft delineation developed by the GBK Working Group, and to provide guidance on integrating that GBK-related content into the auditing and financial accounting and reporting portions of the Uniform CPA Examination CSOs.

### **1.1 Methodology**

PES implemented two procedures to refine and augment the draft delineation developed by the GBK Working Group. First, PES conducted 15 critical incidents interviews via telephone with CPAs in public accounting and supervisors of entry-level CPAs. Second, PES conducted two focus panels consisting of manager and partner-level CPAs. Focus panel members and critical incidents interviewees included CPAs with experience in audit, other assurance, and tax service; CPAs working in local, regional, and national firms; and CPAs employed in public accounting and in business and industry.

The COTF reviewed the work of the GBK Working Group and the subject-matter experts who participated in critical incidents interviews and focus panels, and approved a revised delineation that incorporated the data from all three sources.

PES developed a draft validation survey designed to obtain ratings from practicing CPAs concerning the business knowledge delineation. The COTF reviewed the draft survey in May 1999, and suggested revisions, which PES implemented in preparation for a pilot test of the survey.

The pilot survey was designed and tested on a sample of CPAs in public practice. After revisions, the survey was administered to samples of CPAs in public accounting and in other-than-public accounting, to validate the delineation.

The survey instrument consisted of four sections:

- Section 1: Business subjects
- Section 2: Business subject categories
- Section 3: Background Information
- Section 4: Comments

In Section 1, respondents were asked to make the following three ratings for each of the 67 areas of business knowledge:

- (1) *Importance*—the importance of the area of business knowledge to their own competence as CPAs;
- (2) *Usage*—the level at which they use the knowledge and skills related to the area in their work as CPAs (recognition/recall *versus* apply/interpret/integrate); and
- (3) *Acquisition*—the point at which CPAs should acquire the knowledge and skills related to the area (either before or after passing the Uniform CPA Examination).

In Section 2, respondents were asked to make the following two ratings for each of the six business subject categories:

- (1) *Importance*—the importance of the areas of business knowledge within the category to their own competence as CPAs; and
- (2) *Frequency*—the frequency with which they use the areas of business knowledge within the category in their work as CPAs.

In Section 3, respondents completed a background questionnaire, which included assigning the percentage of their work time spent in the major practice areas of auditing, accounting services and other assurance services, taxation, management advisory services, and “other” practice areas.

In Section 4, respondents answered open-ended questions regarding the general business knowledge needs of CPAs in public accounting.

The survey was mailed to two groups of potential respondents: 1,000 CPAs in public accounting and 200 CPAs in other-than-public accounting. The sample of CPAs in other-than-public accounting was included in order to explore differences in the usage of business knowledge by CPAs in the two settings. For both public and other-than public accountants, the sampling plan was designed to over-represent CPAs at the entry level of practice. It was also designed to include representatives from each of the 54 licensing jurisdictions. The survey mailing sequence included an invitation letter, followed by the survey and a postage-paid return envelope, followed by a reminder/thank-you postcard.

## 1.2 Results

- The return rate for the survey was 43%. Consistent with the sampling plan, 47% of the respondents in public practice had five or fewer years of experience (“less experienced”), and 53% had more than five years of experience (“more experienced”).

- Of the CPAs in public accounting, 52% of the less-experienced CPAs worked in local firms, as did 70% of the more-experienced CPAs. Compared with the more-experienced CPAs, less-experienced CPAs were more likely to work in national or international firms.
- Compared to CPAs in public accounting, CPAs in other-than-public accounting were less likely to work in local firms, and more likely to work in national/international and “other” firms.
- Less-experienced respondents more frequently described themselves as holding the position of staff accountant or senior. More-experienced respondents were more likely to describe themselves as holding the position of manager, partner/shareholder/owner, or sole practitioner.
- More than three-fourths of the respondents in other-than-public accounting were employed in business and industry. The majority of respondents in other-than-public accounting reported working in the financial/accounting area, as CFO/officer (24%), management (35%), or staff (24%).
- More than half of the respondents at each experience level worked at firms employing 100 or fewer professionals. However, respondents with five or fewer years of experience were more likely to work in firms with more than 1,000 professionals than were respondents with more than 5 years of experience.
- Seventy-four percent of the respondents in public accounting had earned a bachelor’s degree as their highest level of education, as did 81% of the respondents in other-than-public accounting. The vast majority had earned that degree in accounting.
- Fifty-one percent of respondents with five or fewer years of experience were female and 49% were male. In contrast, 35% of respondents with more than five years of experience were female. The gender breakdown of CPAs in other-than-public accounting was similar to that of respondents in public accounting with five or fewer years of experience; that is, nearly equal percentages of males and females.

The report presents the average percentage of time that respondents spent in various accounting practice areas.

- Relative to their more-experienced counterparts, less-experienced CPAs spent more time auditing and less time performing taxation engagements and management advisory services.
- Respondents who worked in other-than-public accounting spent less time in auditing and taxation than respondents in public accounting, and spent more time in accounting services and other assurance services and in management advisory services.

Results related to *Importance* and *Frequency* ratings for business-subject categories are presented for public and other-than-public accountants, and for less- and more-experienced CPAs in public accounting. In brief:

- Knowledge of *Organizational Structures* was rated as most important to CPAs in public accounting. Knowledge of *Working Capital Policy and Management* was rated as most important to CPAs in other-than-public accounting. Similarly, knowledge in the category of *Organizational Structures* was used most frequently by CPAs in public accounting, while knowledge in the category of *Working Capital Policy and Management* was used most frequently by CPAs in other-than-public accounting.
- Mean *Importance* ratings for all business knowledge categories exceeded 1.5 for respondents in public and other-than-public accounting, and for less- and more-experienced respondents in public accounting, indicating that the business subjects in each category are at least minimally-to-moderately important to respondents' competence as CPAs.

Results related to *Importance*, *Usage*, and *Frequency* ratings for each business subject are presented for public and other-than-public accountants, and for less- and more-experienced CPAs in public accounting. In brief:

- Less-experienced respondents rated 35 of the 67 business subjects areas at least moderately important to their competence as CPAs in public accounting, and rated the remaining 32 areas at least minimally important.
- More-experienced respondents rated 49 of the 67 areas of business knowledge at least moderately important to their competence as CPAs in public accounting—including the 35 areas rated at least moderately important by the less-experienced cohort—and they rated the other 18 areas at least minimally important. Ten of those 18 were in the *Business Management* category.
- Sixty of the 67 business subjects were used by at least 50% of the less-experienced respondents, either at the *recall/recognize* level or at the *apply/interpret/integrate* level. All business subjects were used by at least 50% of the more-experienced respondents.
- There was general agreement between less- and more-experienced public accountants as to whether a particular business subject is necessary primarily before, or primarily after, passing the Uniform CPA examination. For both public and other-than-public accountants, nearly all areas of business knowledge received a modal response of acquisition before passing the Uniform CPA examination.
- Respondents who worked in public accounting rated 40 of the 67 areas of business knowledge at least moderately important to their competence as CPAs in public accounting, and rated the remaining 27 areas at least minimally important.

- Respondents who worked in other-than-public accounting rated 48 of the 67 areas at least moderately important to their competence as CPAs in this setting—including seven of the eight areas rated at least moderately important by the public accounting cohort—and they rated the other 21 areas at least minimally important.
- Sixty-six of the 67 areas of general business knowledge were used by at least 50% of the respondents in public and other-than-public accounting, either at the *recall/recognize* level or at the *apply/interpret/integrate* level.
- There was general agreement between public and other-than-public accountants as to whether a particular business subject is necessary primarily before, or primarily after, passing the Uniform CPA examination. Among both the public and other-than-public accountants, nearly all areas of business knowledge received a modal response of acquisition before passing the Uniform CPA examination.

### 1.3 Linking Task

A linking task was developed and implemented to identify a valid context in the Audit and FARE Content Specification Outlines (CSOs) for testing business subjects on the Uniform CPA Examination. In the linking task, CPAs were required to “link” the business subjects validated in the *CPA Business Information Survey* to the elements in the Audit and FARE CSOs. Specifically, respondents were presented with a set of business subjects and asked to:

- identify each activity in the Audit CSO in which knowledge and skills related to the business subject plays a key role and contributes to successful performance of the audit activity; and
- identify each element in the FARE CSO in which knowledge and skills related to the business subject contribute to their understanding of that FARE element or their work related to that FARE element.

Eighty-two CPAs participated in the linking activity. Of these, 56 had previously participated in a focus panel, critical incidents interview, or survey pilot test. The other 26 participants were drawn from a cohort of subject matter experts participating in a concurrent large-scale practice analysis of the accounting profession. The return rate for the linking task was 49%.

Strong and moderate links were identified between the business subjects and the Audit and FARE CSOs. Links were identified on the basis of: (1) the number of subject matter experts indicating the link, and (2) the *Importance* and *Acquisition* ratings for the business subjects.

Twenty-five of the 26 auditing activities were strongly linked with at least one area of general business knowledge. Only one auditing task, *Consider omitted procedures after the report date or the subsequent discovery of facts existing at the date of the auditor's report*, was not strongly linked to any business subject. Twenty-nine of the 35 FARE activities were strongly linked with

at least one business subject. Each auditing and FARE activity was moderately linked with at least one business subject.

The COTF reviewed the ratings for each business subject, and made recommendations regarding the business subjects to be tested on the Uniform CPA Examination in the context of the Audit and FARE CSOs. In general, subjects that received a mean *Importance* ratings greater than 1.5 and support for *Acquisition primarily before passing the CPA examination* from more than 33% of respondents, were endorsed for testing.

The COTF made the following recommendations to the Board of Examiners based on the results of the General Business Knowledge Study.

- Modify the Law examination CSOs. The personal property CSOs for the Law examination includes the words “personal property, including bailments and . . .” in one description of subject matter. The phrase “including bailments and . . .” should be dropped, since laws relating to bailments was the lowest-ranked of the 67 business subjects on the survey.
- Distribute the results of the study to the groups responsible for the preparation of examination questions, so that the importance of the business subject matter and its links to Audit and FARE activities may be considered during preparation of examination questions.
- Add a paragraph to *Information for Uniform CPA Examination Candidates* booklet alerting the candidates that a broad knowledge of general business subjects is expected.

At their January 2000 meeting, the AICPA’s Board of Examiners approved the COTF’s recommended changes, effective with the November 2000 examination.

## 2. Background

In 1996, the AICPA Board of Examiners appointed a Content Oversight Task Force (COTF) to identify ways to expeditiously update the Uniform CPA Examination content specifications. As its first initiative, the COTF issued an invitation to comment, *Updating the Uniform CPA Examination Content Specifications* (AICPA, 1997a). One finding was the identification of the need integrate more economic and global business concepts into the Uniform CPA Examination (AICPA, 1997b).

On the basis of this finding, the COTF appointed a General Business Knowledge (GBK) Working Group to examine how the Uniform CPA Examination might incorporate an assessment of the business knowledge required of CPAs in public accounting. The GBK Working Group drafted a preliminary delineation of the business knowledge required of CPAs. The delineation incorporated the managerial accounting and business law portions of the content specification outline for the Uniform CPA Examination. These two areas had been determined to represent areas of business knowledge required by CPAs in public accounting. The initial delineation underwent internal review and revision by members of the GBK Working Group.

In 1998, the AICPA contracted with PES to review and amplify the draft delineation developed by the GBK Working Group, and to provide guidance on integrating that GBK-related content into the auditing and financial accounting and reporting portion of the Uniform CPA Examination CSOs.



### **3. Procedures for the Conduct of the Study**

#### **3.1 Refinement of Delineation of General Business Knowledge**

PES implemented two procedures to refine and augment the draft delineation developed by the GBK Working Group. First, PES conducted 15 critical incidents interviews via telephone with CPAs in public accounting and with supervisors of entry-level CPAs. The focus of each interview was to gather more specific information on the impact of general business knowledge and a broad business perspective on accounting practice. Interviewees included representatives of small-, medium-, and large-sized firms, in geographically diverse locations. Appendix 1 contains a summary report of the critical incidents interview data-collection initiative.

Second, PES conducted two focus panels consisting of manager and partner-level CPAs with a mix of experience in audit, other assurance, and tax service; CPAs working in local, regional, and national firms; and CPAs employed in business and industry. Panelists were asked to describe the elements of the general business knowledge base they would like to see in newly licensed CPAs. Panelists were also asked to review and comment on the draft delineation developed by the GBK Working Group. Appendix 2 contains a summary report of the focus panel data-collection initiative.

PES incorporated the results of the 15 critical incident interviews and the two focus panels into a revised delineation. The COTF reviewed the revised delineation at their May 1999 meeting, and suggested revisions, which were incorporated into the delineation prior to the conduct of a validation survey.

The final delineation consisted of 67 business subjects, organized within six categories. The delineation is presented in Exhibit 1.

**Exhibit 1**  
**Delineation of Business Subjects**

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**Economics**

Supply and demand

Government intervention in market operations

The economy as a system of markets, including the labor market and the capital market

Business cycles; terminology used to explain business fluctuations; and reasons for fluctuations

Monetary policy and money supply

Inflation and interest rates

Competitive factors in the marketplace

Free trade and protectionism; barriers in international trade; and advantages and disadvantages of trade in international markets

The world economy; foreign exchange rates; and strategies to manage exchange rates

Business implications of E-commerce

Sources of broad-based economic data (for example, Federal Reserve, market indicators)

**Organizational Structures**

Formation, capitalization, operation, and tax implications of business entities, such as: corporations, partnerships, joint ventures, limited liability partnerships, limited liability corporations, and other unincorporated associations

Formation, operation, and termination of non-business entities, such as estates, trusts, and conservatorships; and related fiduciary responsibilities

Rights, duties, liabilities and authority of: stockholders, directors, officers, partners, joint ventures, members, and other owners

Financial structure, distribution, reorganization, consolidation, and dissolution of corporations

**Business Law And Regulation**

Business ethics

Fraud

Implications of Federal Securities Acts

Implications of employment regulations, such as OSHA, ADA, and unfair labor practices

Implications of environmental regulations

Implications of local, state, and federal taxes

Contract: formation, performance, third-party assignments, discharge, breach, and remedies

The Uniform Commercial Code regarding: negotiable instruments, including letters of credit; sales; secured transactions; documents of title; and title transfer

Formation and termination of agencies; duties of agents and principals; and liabilities and authority of agents and principals

Laws relating to the ownership and leasing of property

Laws relating to bailments

Laws relating to computer technology rights

Types of insurance, including general business insurance, life insurance, self insurance

Rights, duties, and liabilities of debtors, creditors, and guarantors

Implications of loan covenants

Bankruptcy acts

## **Working Capital Policy And Management**

Optimum levels of current assets and current liabilities; balancing profitability and risk; and types of risk  
Cash management, such as: factors influencing the levels of cash; using the float; analysis and synchronization of cash inflows and outflows; methods to speed cash collections; overdraft systems; and compensating balances

Strategies for financing working capital; types, advantages, and disadvantages of short-term credit, including factoring

Types of marketable securities

Risk and return factors influencing the selection of marketable securities

Reasons for holding marketable securities

Reasons for carrying accounts receivable

Reasons for managing accounts payable

Factors influencing the level of accounts receivable, and variables and decisions regarding credit policy

Factors influencing the level of inventory

Inventory control and planning, and inventory models and systems

## **Long-term Financing And Capital Structure**

Factors influencing optimum capital structure such as risk, leverage, and cost of capital

Types and nature of long-term financing; bonds, intermediate-term loans; term loans; lease financing; common stock; preferred stock; convertible securities; stock warrants and rights; stock options; employee stock ownership plans; hedging instruments (swaps, options, futures)

Responsibilities to capital holders; control positions of owners and management; lender and rating attitude; and effect of financial markets

## **Business Management**

Economic costs, economies and diseconomies of scale, and economic profits

Factors affecting production costs in the short run and the long run

Cost drivers, cost estimation, cost behavior, and the impact of productivity and quality

Production cost allocation methods, including activity-based, job order, process, and standard

Considerations in measuring and allocating costs in a service-based business

Sales/customer/supplier channels

Market influences on pricing; product differentiation; and market segmentation

Service and product pricing strategies

Government contract pricing

Purposes of budgeting; methods of budgeting; and the budget process

Impact of the organizational structure on short-term and long-term budgeting and planning

Annual profit plans and supporting budgets for sales, production, direct materials, direct labor, overhead, cost of goods sold, and selling and administrative expenses

Pro forma income statements, pro forma statements of financial position, and pro forma statements of cash flow

Procedures to create business plans

Forecasting/projection techniques

Measurements of performance (for example, efficiency, productivity, customer satisfaction)

Decision theory and operational decision analysis

Time value of money

Quantitative methods for decision analysis such as: regression analysis and linear programming

Analyses such as make vs. buy, add or drop a segment, sell or process further

Analyses such as discounted cash flow, internal rates of return, payback, accounting rate of return, economic value analysis

Human resource management

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### 3.2 Conduct of Validation Survey

PES developed a draft validation survey designed to collect ratings related to the business knowledge delineation from CPAs in practice. The COTF reviewed the draft survey in May 1999, and suggested revisions that PES implemented in preparation for a pilot test of the survey.

PES conducted a survey pilot test by mail with a sample of 25 CPAs nominated by the AICPA. Participants were required to complete the survey *and* to critically review the component elements. The pilot test served as a check on the clarity and comprehensiveness of the survey and the delineation. PES also conducted a telephone-based follow-up interview with two of the pilot test participants. The interview was designed to reveal subtle flaws in the delineation, the rating scales, and/or the instructions.

Following the conduct of the pilot test, PES prepared recommendations regarding revision of the content and format of the survey. The GBK Working Group reviewed those recommendations in June 1999, and suggested final revisions to the survey document.

The survey consisted of four sections. (See Appendix 3 for a copy of the survey.) In Section 1, respondents were asked to make the following three ratings for each of the 67 business subjects:

- (1) *Importance*—the importance of the area of business knowledge to their own competence as CPAs;
- (2) *Usage*—the level at which they use the knowledge and skills related to the area in their work as CPAs (recognition/recall *versus* apply/interpret/integrate); and
- (3) *Acquisition*—the point at which CPAs should acquire the knowledge and skills related to the area (either before or after passing the Uniform CPA Examination).

In Section 2, respondents were asked to make the following two ratings for each of the six business subject categories:

- (1) *Importance*—the importance of the business knowledge within the category to their own competence as CPAs; and
- (2) *Frequency*—the frequency with which they use the areas of business knowledge within the business subject category in their work as CPAs.

In Section 3, respondents completed a background questionnaire, which included assignment of the percentage of their work time spent in the major practice areas of auditing, accounting services and other assurance services, taxation, management advisory services, and “other” practice areas.

In Section 4, respondents answered open-ended questions regarding the GBK needs of CPAs in public accounting.

The survey was mailed to two groups of potential respondents: 1,000 CPAs in public accounting and 200 CPAs in other-than-public accounting. The sample of CPAs in other-than-public accounting was included in order to explore differences in the usage of business knowledge by CPAs in the two settings. The sample of CPAs in public accounting was drawn from the population of AICPA members who indicated that they were employed in public accounting and specified *Accounting and Auditing* or *Taxation* as their area of interest. The sample of CPAs in other-than-public accounting was drawn from the population of AICPA members who indicated that they were employed in business and industry.

For both public and other-than public accountants, the sampling plan was designed to include representatives from each of the 54 licensing jurisdictions. In addition, the sample over-represented CPAs at the entry level of practice: 65% had held the CPA certificate for three or fewer years (that is, they were certified by AICPA between 1995 and 1998), while the remaining 35% had held the AICPA certificate for more than three years.

Individual letters were sent to the members of the sample inviting them to participate in the survey, which would be mailed to them in two weeks. Then, two weeks later, CPAs *not* declining to participate in the survey received the survey and a postage-paid return envelope. The survey mailing was followed up two weeks later by a reminder/thank-you postcard.

## **4. Results of the Validation Survey**

### **4.1 Return Rate**

The return rate for the survey was 43% (514 of the 1,197 surveys eligible to be returned). The number eligible was defined as the number of surveys mailed ( $N = 1,200$ ), minus the number that could not be delivered ( $N = 2$ ) and the number delivered to CPAs who were no longer practicing ( $N = 1$ ). The return rate was consistent with expectations, and is similar to rates obtained for surveys in other professions. Of the respondents in public accounting, 196 (47%) had five or fewer years of experience, and 217 (53%) had more than five years of experience. This is consistent with the sampling plan, which oversampled CPAs nearer the entry level of practice.

### **4.2 Demographic and Professional Characteristics of Respondents**

In this section for the total sample, results are reported separately for CPAs in public accounting and for CPAs in other-than-public accounting. For CPAs in public accounting, the data are reported separately for CPAs with five or fewer years of experience (“less experienced”) and CPAs with more than five years of experience (“more experienced”).

Of the CPAs in public accounting, 52% of the less-experienced CPAs worked in local firms, as did 70% of the more-experienced CPAs (see Table 1). Compared with the more-experienced CPAs, less-experienced CPAs were more likely to work in national or international firms. Compared to CPAs in public accounting, CPAs in other-than-public accounting were less likely to work in local firms, and more likely to work in national/international and “other” firms.

**Table 1**  
**Percentage of Respondents by Type of Firm**

Type of Firm	Public			Other-Than-Public (N=93)
	≤ 5 yr (N=196)	> 5 yr (N=217)	Total (N=413)	
Local	52	70	62	30
Regional	16	12	14	14
National/International	31	18	24	33
Other	1	1	1	23

*Note: Percents do not add to 100 due to rounding.*

Table 2 illustrates the positions that respondents in public accounting held in their firms. Less-experienced respondents were more likely to describe themselves as holding the position of staff accountant or senior. More-experienced respondents were more likely to describe themselves as holding the position of manager, partner/shareholder/owner, or sole practitioner.

**Table 2**  
**Percentage of Respondents in Public Accounting by Present Position in Firm**

Position	≤ 5 yr (N=195)	> 5 yr (N=217)	Total (N=412)
Sole practitioner	4	15	10
Partner/shareholder/owner	5	35	20
Manager or equivalent	17	29	24
Supervisor or equivalent	9	8	9
Senior or equivalent	46	10	27
Staff accountant	19	2	10
Other	0	1	0

Table 3 displays the industries in which respondents in other-than-public accounting are employed. More than three-fourths of respondents described themselves as employed in business and industry.

**Table 3**  
**Percentage of Respondents in Other-Than-Public Accounting, by Industry**

Industry	% of Respondents
Business & Industry	77
Education	2
Government	4
Law	1
Consulting	5
Other	11

Table 4 displays the positions that respondents in other-than-public accounting held in their organizations. The majority of respondents reported working in the financial/accounting area, as CFO/officer (24%), management (35%), or staff (24%).

**Table 4**  
**Percentage of Respondents in Other-Than-Public Accounting by Present Position in Organization**

Position	% of Respondents
President/CEO/COO	3
CFO/Officer—Financial/Accounting	24
Officer—Non-Financial/Non-Accounting	3
Financial/Accounting Management	35
Financial/Accounting Staff	24
Internal Auditor	6
Staff—Non-Financial/Non-Accounting	0
Other	4

As seen in Table 5, more than half of the respondents at each experience level work at firms employing 100 or fewer professionals. However, respondents with five or fewer years of experience were twice as likely to work in firms with more than 1,000 professionals than were respondents with more than five years of experience. This is consistent with the results documented in Table 2, which showed that less-experienced respondents were more likely to work in national/international firms. Other-than-public accounting respondents were distributed across small, medium, and large firms.

**Table 5**  
**Percentage of Respondents by Number of Professionals**  
**in Firm/Organization**

Number of Professionals	Public			Other-Than-Public (N=91)
	≤5 yr (N=196)	> 5 yr (N=217)	Total (N=413)	
1 – 9	26	49	38	31
10 – 100	33	28	30	29
101 – 1,000	10	7	8	23
Over 1,000	32	16	23	18

There were no practical differences in the geographic distribution of CPAs in public and other-than-public accounting, or between the less-and more-experienced CPAs in public accounting (see Table 6).

**Table 6**  
**Percentage of Respondents by Region/Territory**

Region/Territory	Public			Other-Than-Public (N=94)
	≤ 5 yr (N=194)	> 5 yr (N=216)	Total (N=410)	
Northeast	18	21	20	26
Midwest	28	24	26	26
West	25	26	25	21
South	28	27	28	26
Puerto Rico	1	2	2	0
Guam	0	0	0	2



Similar percentages of less- and more-experienced CPAs completed a < 150 credit hours bachelor's degree (see Table 7). Less-experienced CPAs were more likely to have a master's degree than were more-experienced CPAs or CPAs in other-than-public accounting, and were less likely to have a 150+ credit hours bachelor's degree.

**Table 7**  
**Percentage of Respondents by Highest Level of Education**

Highest Level of Education	Public			Other-Than-Public (N=95)
	≤ 5 yr (N=196)	> 5 yr (N=217)	Total (N=413)	
Some college/no degree	0	1	1	0
Associate's degree	0	1	1	0
Bachelor's degree <150 credit hours	51	47	49	51
Bachelor's degree ≥150 credit hours	21	29	25	30
Master's degree	27	19	23	20
Doctorate	0	1	1	0
Other	1	1	1	0

Of those respondents who had earned an associate's or bachelor's degree, most had earned a bachelor's degree in accounting (see Table 8). This was true across experience levels and public/other-than-public practice. Respondents who received bachelor's degrees in "other" areas earned those degrees in a variety of disciplines. Five respondents noted mathematics as their "other" discipline; otherwise no more than one or two respondents had earned a bachelor's degree in any one "other" particular discipline.

**Table 8**  
**Percentage of Respondents by Discipline of Associate's or Bachelor's Degree**

Discipline of Associate's or Bachelor's Degree	Public			Other-Than-Public (N=96)
	≤ 5 yr (N=196)	> 5 yr (N=217)	Total (N=413)	
Accounting	89	83	86	84
Information systems/computer science	3	2	2	4
Other business area	16	18	17	16
Engineering	1	1	1	1
Social sciences	3	2	2	0
Humanities	3	4	4	4
Other	3	4	3	1

*Note: Multiple responses permitted.*

Of those respondents who had earned a master's degree, a larger percentage of less-experienced CPAs (13%) than more-experienced CPAs (6%) had earned that degree in accounting (see Table 9). About 9% of respondents had earned an MBA, either in accounting or in some other business area. No more than one or two respondents had earned a master's degree in any single "other" discipline.

**Table 9**  
**Percentage of Respondents by Type of Advanced Degree**

Type of Advanced Degree	Public			Other-Than-Public (N=96)
	≤ 5 yr (N=196)	> 5 yr (N=217)	Total (N=413)	
Master's in accounting	13	6	9	6
Master's in taxation	7	5	6	2
Master's in other business area	0	2	1	2
MBA (concentration in accounting)	3	5	4	3
MBA (concentration in other business area)	6	3	4	6
JD or LLM	0	2	1	0
Other	1	1	1	0

*Note: Multiple responses permitted.*

As seen in Table 10, 51% of respondents with five or fewer years of experience were female, and 49% were male. In contrast, 35% of respondents with more than five years of experience were female. The gender breakdown of CPAs in other-than-public accounting was similar to that of respondents in public accounting with five or fewer years of experience; that is, nearly equal percentages of males and females.

**Table 10**  
**Percentage of Respondents by Gender**

Gender	Public			Other-Than-Public (N=96)
	≤ 5 yr (N=196)	> 5 yr (N=217)	Total (N=413)	
Female	51	35	43	51
Male	49	65	57	49

### 4.3 Percentage of Time Spent in Accounting Practice Areas

The average percentage of time that less- and more-experienced respondents spent in various accounting practice areas is presented in Table 11. Relative to their more-experienced counterparts, less-experienced CPAs spent more time auditing and less time performing taxation engagements and management advisory services. The large standard deviations associated with the mean percentages of time spent in each area of practice indicate substantial variation in time spent across the samples.

Respondents who worked in other-than-public accounting spent less time in auditing and taxation than respondents in public accounting, and spent more time in accounting services and other assurance services and in management advisory services. Thirty percent of other-than-public accountants spent their time in “other” practice areas—half of these respondents specified that 100% of their time was spent in industry-related practice.

**Table 11**  
**Percentage of Work Time Devoted to Each Practice Area**  
**During the Past Year:**  
**Mean and (Standard Deviation)**

Practice Area	Public			Other- Than- Public (N=92)
	≤ 5 yr (N=196)	> 5 yr (N=215)	Total (N=411)	
Auditing	37 (35)	23 (29)	30 (33)	14 (26)
Accounting services and other assurance services	17 (18)	19 (18)	18 (18)	25 (32)
Taxation	37 (32)	41 (29)	39 (31)	16 (27)
Management Advisory Services	7 (13)	11 (16)	9 (15)	15 (24)
Other	2 (10)	5 (17)	4 (14)	30 (41)

*Note: Percents do not add to 100 due to rounding.*

#### 4.4 Results related to the Business Subject Categories

Mean *Importance* and *Frequency* ratings for the six business subject categories are displayed in Table 12. For reference, Exhibit 2 contains the scale stops for each rating scale.

**Exhibit 2**  
**Rating Scales for Business Subject Categories**

<b>Importance</b>	<b>Frequency</b>
How important are the business subjects within this category to your competence as a CPA? ( <i>Circle one.</i> )	How frequently do you use the business subjects within this category in your work as a CPA? ( <i>Circle one.</i> )
0 Not important	0 Never
1 Minimally important	1 Infrequently
2 Moderately important	2 Frequently
3 Very important	3 Very frequently

Knowledge of *Organizational Structures* was rated as most important to CPAs in public accounting. Knowledge of *Working Capital Policy and Management* was rated as most important to CPAs in other-than-public accounting. Similarly, knowledge within the category of *Organizational Structures* was used most frequently by CPAs in public accounting, while knowledge within the category of *Working Capital Policy and Management* was used most frequently by CPAs in other-than-public accounting.

For respondents in public and other-than-public accounting, and for less- and more-experienced respondents in public accounting, mean *Importance* ratings for the business subject categories exceeded 1.5, indicating that the knowledge in each category is at least minimally-to-moderately important to respondents' competence as CPAs.

**Table 12**  
**Importance and Frequency Ratings for Business Subject Categories**  
**Mean and (Standard Deviation)**

Business Subject Category	Importance				Frequency			
	Public			Other- Than- Public N=95	Public			Other- Than- Public N=95
	≤ 5 yr N=188	> 5 yr N=213	Total N=401		≤5 yr N=188	> 5 yr N=213	Total N=401	
Economics	1.9 (0.7)	2.0 (0.8)	1.9 (0.8)	2.0 (0.7)	1.4 (0.7)	1.7 (0.7)	1.6 (0.7)	1.6 (0.7)
Organizational Structures	2.5 (0.6)	2.5 (0.7)	2.5 (0.6)	2.3 (0.7)	2.3 (0.8)	2.4 (0.7)	2.3 (0.8)	1.8 (0.8)
Business Law and Regulation	2.3 (0.7)	2.3 (0.7)	2.3 (0.7)	2.4 (0.6)	2.0 (0.8)	2.0 (0.8)	2.0 (0.8)	2.0 (0.8)
Working Capital Policy and Management	2.4 (0.7)	2.3 (0.8)	2.3 (0.7)	2.5 (0.6)	2.0 (0.8)	2.1 (0.8)	2.0 (0.8)	2.3 (0.8)
Long-term Financing and Capital Structure	2.3 (0.7)	2.3 (0.7)	2.3 (0.7)	2.2 (0.8)	2.0 (0.8)	2.0 (0.7)	2.0 (0.8)	1.8 (0.9)
Business Management	2.2 (0.7)	2.4 (0.7)	2.3 (0.7)	2.5 (0.6)	1.9 (0.9)	2.1 (0.8)	2.0 (0.8)	2.3 (0.8)

#### 4.5 Results related to the General Business Knowledge Statements

This section documents the results related to the 67 areas of general business knowledge. Exhibit 3 contains the response categories for the *Importance*, *Usage*, and *Acquisition* rating scales.

**Exhibit 3**  
**Rating Scales for Business Subjects**

<b>Importance</b>	<b>Usage</b>	<b>Acquisition</b>
How important is the subject to your competence as a CPA? (Circle one.)	What level best represents your use of knowledge and skills (KSs) related to the subject in your work as a CPA? (Circle one.)	At what point should CPAs acquire knowledge and skills related to the subject? (Circle one.)
0 Not important 1 Minimally important 2 Moderately important 3 Very important	0 Do not use the KSs 1 Recall/recognize the KSs 2 Apply/interpret/integrate the KSs	0 Not necessary at any point 1 Primarily before passing the CPA examination 2 Primarily after passing the CPA examination

**4.5.1 Ratings for Less- and More-Experienced CPAs in Public Accounting**

Table 13 presents results for CPAs in public accounting. To illustrate similarities and differences in the ratings of CPAs closer to entry-level and those of more-experienced CPAs, results are presented separately for less- and more-experienced respondents. For each subgroup, the mean *Importance* rating is presented, along with the percentage of respondents endorsing each *Usage* and *Acquisition* response category.

Table 13

For Less- and More-Experienced CPAs in Public Accounting, Importance, Usage and Acquisition Ratings for Business Subjects in Descending Order of Importance to CPAs with ≤5 Years of Experience Mean and (Standard Deviation) for Importance, Percentage at each Rating Point for Usage and Acquisition

Business Subjects	Importance		Usage						Acquisition					
	≤ 5 yr	> 5 yr	≤ 5 yr			> 5 yr			≤ 5 yr			> 5 yr		
			0	1	2	0	1	2	0	1	2	0	1	2
12. Formation, capitalization, operation, and tax implications of business entities, such as: corporations, partnerships, joint ventures, limited liability partnerships, limited liability corporations, and other unincorporated associations	2.9 (0.4)	2.9 (0.3)	0	12	88	1	6	93	1	83	16	0	77	23
16. Business ethics	2.8 (0.5)	2.7 (0.6)	2	18	80	1	22	77	1	90	10	1	86	14
21. Implications of local, state, and federal taxes	2.7 (0.6)	2.8 (0.5)	2	17	81	1	12	87	0	81	20	0	74	26
17. Fraud	2.6 (0.7)	2.5 (0.7)	5	31	64	2	35	62	1	81	19	1	81	18
63. Time value of money	2.6 (0.6)	2.6 (0.7)	4	23	73	3	25	72	0	89	11	2	88	10
14. Rights, duties, liabilities and authority of: stockholders, directors, officers, partners, joint ventures, members, and other owners	2.5 (0.7)	2.6 (0.6)	3	27	71	2	29	69	3	71	26	1	69	31
15. Financial structure, distribution, reorganization, consolidation, and dissolution of corporations	2.5 (0.7)	2.6 (0.6)	5	27	68	2	30	68	2	68	30	1	62	37
41. Factors influencing the level of inventory	2.4 (0.8)	2.4 (0.8)	8	36	56	4	31	65	2	77	21	1	74	25
4. Business cycles; terminology used to explain business fluctuations; and reasons for fluctuations	2.4 (0.7)	2.4 (0.8)	6	36	58	4	34	62	2	78	20	3	75	23
32. Optimum levels of current assets and current liabilities; balancing profitability and risk; and types of risk	2.4 (0.7)	2.4 (0.7)	5	34	62	5	30	66	1	72	27	2	71	27
33. Cash management, such as: factors influencing the levels of cash; using the float; analysis and synchronization of cash inflows and outflows; methods to speed cash collections; overdraft systems; and compensating balances	2.4 (0.7)	2.4 (0.7)	7	39	54	2	34	64	1	66	33	1	67	32
39. Reasons for managing accounts payable	2.4 (0.7)	2.4 (0.7)	6	31	63	2	31	67	2	79	20	1	81	18
44. Types and nature of long-term financing; bonds, intermediate-term loans; term loans; lease financing; common stock; preferred stock; convertible securities; stock warrants and rights; stock options; employee stock ownership plans; hedging instruments (swaps, options, futures)	2.4 (0.7)	2.4 (0.7)	5	39	56	5	41	55	1	84	15	1	77	22
6. Inflation and interest rates	2.3 (0.8)	2.4 (0.7)	4	39	57	2	40	58	3	77	20	2	81	17



**Table 13 (continued)**

	Importance		Usage						Acquisition									
	≤ 5 yr	> 5 yr	≤ 5 yr			> 5 yr			≤ 5 yr			> 5 yr						
			0	1	2	0	1	2	0	1	2	0	1	2				
<b>Business Subjects</b>																		
13. Formation, operation, and termination of non-business entities, such as: estates, trusts, and conservatorships; and related fiduciary responsibilities	2.3 (0.8)	2.5 (0.7)	10	35	55	6	30	65	2	54	44	2	50	48				
35. Types of marketable securities	2.3 (0.8)	2.3 (0.8)	7	44	50	4	41	56	2	79	20	2	76	22				
38. Reasons for carrying accounts receivable	2.3 (0.8)	2.3 (0.8)	7	34	59	4	35	61	2	77	21	3	79	18				
42. Inventory control and planning, and inventory models and systems	2.3 (0.8)	2.3 (0.8)	12	41	46	6	41	54	3	69	29	2	72	26				
58. Pro forma income statements, pro forma statements of financial position, and pro forma statements of cash flow	2.3 (0.8)	2.3 (0.9)	7	34	59	6	33	61	2	77	21	2	76	22				
40. Factors influencing the level of accounts receivable, and variables and decisions regarding credit policy	2.3 (0.7)	2.3 (0.8)	8	36	56	7	33	60	2	71	28	3	68	29				
30. Implications of loan covenants	2.2 (0.9)	2.4 (0.8)	10	35	55	5	31	64	4	61	35	3	64	33				
7. Competitive factors in the marketplace	2.2 (0.8)	2.3 (0.8)	10	46	44	5	49	47	4	65	31	4	69	27				
25. Laws relating to the ownership and leasing of property	2.2 (0.8)	2.2 (0.8)	7	43	51	5	48	47	2	80	18	4	67	29				
29. Rights, duties, and liabilities of debtors, creditors, and guarantors	2.2 (0.8)	2.3 (0.8)	5	48	48	4	47	49	1	80	19	2	82	16				
34. Strategies for financing working capital; types, advantages, and disadvantages of short-term credit, including factoring	2.2 (0.8)	2.4 (0.7)	11	47	43	2	41	57	4	57	39	1	58	41				
43. Factors influencing optimum capital structure such as risk, leverage, and cost of capital	2.2 (0.8)	2.3 (0.8)	11	54	35	7	48	45	1	67	33	1	68	31				
55. Purposes of budgeting; methods of budgeting; and the budget process	2.2 (0.8)	2.3 (0.8)	9	42	49	6	37	57	3	76	22	2	77	21				
66. Analyses such as discounted cash flow, internal rates of return, payback, accounting rate of return, economic value analysis	2.2 (0.8)	2.3 (0.8)	15	41	44	7	37	55	3	76	21	2	76	22				
60. Forecasting/projection techniques	2.1 (0.9)	2.3 (0.8)	16	43	41	7	41	53	3	54	43	0	55	44				
22. Contract: formation, performance, third-party assignments, discharge, breach, and remedies	2.1 (0.8)	2.2 (0.7)	9	52	39	2	55	43	2	76	22	3	77	20				
28. Types of insurance, including general business insurance, life insurance, self insurance	2.1 (0.8)	2.3 (0.8)	6	53	41	3	44	53	6	61	34	3	59	38				

Table 13 (continued)

Business Subjects	Importance		Usage						Acquisition					
	≤ 5 yr	> 5 yr	≤ 5 yr			> 5 yr			≤ 5 yr			> 5 yr		
			0	1	2	0	1	2	0	1	2	0	1	2
36. Risk and return factors influencing the selection of marketable securities	2.0 (0.9)	2.1 (0.8)	13	51	36	8	48	45	5	59	37	3	56	41
23. The Uniform Commercial Code regarding: negotiable instruments, including letters of credit; sales; secured transactions; documents of title; and title transfer	2.0 (0.8)	2.1 (0.8)	10	57	33	6	53	42	2	81	18	3	79	18
37. Reasons for holding marketable securities	2.0 (0.8)	2.1 (0.8)	8	54	38	7	46	47	4	64	32	5	60	35
45. Responsibilities to capital holders; control positions of owners and management; lender and rating attitude; and effect of financial markets	2.0 (0.8)	2.1 (0.8)	12	58	30	10	52	37	5	56	39	4	53	42
10. Business implications of E-commerce	1.9 (1.0)	2.0 (0.9)	27	45	29	16	50	34	8	49	43	9	56	35
18. Implications of Federal Securities Acts	1.9 (0.9)	1.9 (0.9)	21	55	24	18	59	23	5	61	34	6	61	33
57. Annual profit plans and supporting budgets for sales, production, direct materials, direct labor, overhead, cost of goods sold, and selling and administrative expenses	1.9 (0.9)	2.2 (0.9)	16	51	33	7	45	49	5	65	30	4	69	26
61. Measurements of performance (for example, efficiency, productivity, customer satisfaction)	1.9 (0.9)	2.1 (0.9)	17	48	35	15	47	39	5	54	40	5	53	43
11. Sources of broad-based economic data (for example, Federal Reserve, market indicators)	1.9 (0.8)	1.9 (0.8)	14	63	24	10	60	31	7	59	34	6	63	31
50. Considerations in measuring and allocating costs in a service-based business	1.9 (0.8)	2.2 (0.7)	17	57	25	10	46	44	4	68	29	2	69	29
59. Procedures to create business plans	1.9 (0.8)	2.2 (0.8)	22	49	29	8	50	43	6	40	53	1	46	53
1. Supply and demand	1.8 (0.9)	2.0 (0.8)	15	57	29	11	54	34	9	82	10	4	85	12
49. Production cost allocation methods, including activity-based, job order, process, and standard	1.8 (0.9)	2.1 (0.9)	22	57	22	12	54	34	4	74	22	1	82	17
56. Impact of the organizational structure on short-term and long-term budgeting and planning	1.8 (0.9)	2.0 (0.9)	21	51	28	14	46	39	8	58	34	5	62	33
67. Human resource management	1.8 (0.9)	2.0 (0.9)	22	48	30	13	49	38	11	39	50	8	36	56
3. The economy as a system of markets, including the labor market and the capital market	1.8 (0.8)	2.0 (0.8)	19	57	24	13	53	35	9	70	22	4	76	20
31. Bankruptcy acts	1.8 (0.8)	2.0 (0.8)	15	65	20	9	58	32	4	68	29	4	60	36

Table 13 (continued)

Business Subjects	Importance		Usage						Acquisition					
	≤ 5 yr	> 5 yr	≤ 5 yr			> 5 yr			≤ 5 yr			> 5 yr		
			0	1	2	0	1	2	0	1	2	0	1	2
47. Factors affecting production costs in the short run and the long run	1.8 (0.8)	2.0 (0.9)	25	58	17	15	55	30	7	64	29	3	68	29
65. Analyses such as make vs. buy, add or drop a segment, sell or process further	1.7 (0.9)	2.0 (0.9)	27	53	20	15	50	35	8	57	35	5	60	35
5. Monetary policy and money supply	1.7 (0.8)	1.7 (0.9)	23	63	14	18	59	23	12	68	20	11	67	22
19. Implications of employment regulations, such as OSHA, ADA, and unfair labor practices	1.7 (0.8)	1.8 (0.8)	19	59	22	16	63	22	8	46	45	9	40	51
24. Formation and termination of agencies; duties of agents and principals; and liabilities and authority of agents and principals	1.7 (0.8)	1.9 (0.9)	15	66	20	11	60	29	7	73	21	8	69	22
46. Economic costs, economies and diseconomies of scale, and economic profits	1.7 (0.8)	1.9 (0.9)	24	62	14	15	57	28	8	67	25	7	63	30
48. Cost drivers, cost estimation, cost behavior, and the impact of productivity and quality	1.7 (0.8)	2.0 (0.8)	26	58	16	13	54	33	5	66	30	4	69	27
51. Sales/customer/supplier channels	1.7 (0.8)	1.9 (0.8)	24	57	19	13	56	31	7	58	35	7	52	40
52. Market influences on pricing; product differentiation; and market segmentation	1.7 (0.8)	1.9 (0.9)	27	57	17	12	64	23	9	63	29	5	61	34
27. Laws relating to computer technology rights	1.6 (0.9)	1.7 (0.9)	36	53	11	23	58	19	14	49	37	13	51	36
62. Decision theory and operational decision analysis	1.6 (0.9)	1.8 (0.9)	34	51	16	20	57	24	13	47	40	9	50	41
2. Government intervention in market operations	1.6 (0.8)	1.7 (0.8)	28	56	16	22	55	23	12	57	31	13	59	28
53. Service and product pricing strategies	1.6 (0.8)	1.9 (0.8)	29	56	15	15	56	29	12	47	41	4	54	41
9. The world economy; foreign exchange rates; and strategies to manage exchange rates	1.5 (0.9)	1.5 (1.0)	34	46	20	32	49	19	13	49	39	17	48	35
20. Implications of environmental regulations	1.5 (0.8)	1.6 (0.8)	32	55	13	19	63	17	17	31	52	9	34	56
64. Quantitative methods for decision analysis such as: regression analysis and linear programming	1.2 (0.9)	1.5 (1.0)	50	41	9	35	48	17	21	42	37	22	48	30
8. Free trade and protectionism; barriers in international trade; and advantages and disadvantages of trade in international markets	1.2 (0.8)	1.4 (0.9)	44	49	7	37	53	10	19	42	40	18	51	31
54. Government contract pricing	1.2 (0.8)	1.3 (0.9)	51	44	6	40	47	13	24	31	45	20	31	48
26. Laws relating to bailments	1.0 (0.8)	1.2 (0.9)	57	39	4	45	49	6	32	40	29	35	35	31

Less-experienced respondents rated 35 of the 67 business subjects at least moderately important to their competence as CPAs in public accounting (i.e., mean rating above 2.0), and rated the remaining 32 business subjects at least minimally important. More-experienced respondents rated 49 of the 67 business subjects at least moderately important to their competence as CPAs in public accounting—including the 35 subjects rated at least moderately important by the less-experienced cohort—and they rated the other 18 business subjects at least minimally important. Ten of those 18 were in the *Business Management* category.

The most important subjects (i.e., subjects rated 2.5 or higher by either the less- or more-experienced respondents) were:

- Formation, capitalization, operation, and tax implications of business entities, such as: corporations, partnerships, joint ventures, limited liability partnerships, limited liability corporations, and other unincorporated associations
- Formation, operation, and termination of non-business entities, such as: estates, trusts, and conservatorships; and related fiduciary responsibilities
- Rights, duties, liabilities and authority of: stockholders, directors, officers, partners, joint ventures, members, and other owners
- Financial structure, distribution, reorganization, consolidation, and dissolution of corporations
- Business ethics
- Fraud
- Implications of local, state, and federal taxes
- Time value of money

The least important business subjects (i.e., subjects rated 1.5 or lower by either the less- or more-experienced respondents) were:

- The world economy; foreign exchange rates; and strategies to manage exchange rates,
- Implications of environmental regulations,
- Quantitative methods for decision analysis such as: regression analysis and linear programming
- Free trade and protectionism; barriers in international trade; and advantages and disadvantages of trade in international markets,

- Government contract pricing, and
- Laws relating to bailments.

*Usage* ratings indicate that 65 out of the 67 business subjects were used by at least 50% of the less-experienced respondents, either at the *recall/recognize* level or at the *apply/interpret/integrate* level. Only the following business subject was used by less than 50% of the less-experienced respondents: #26, *Laws related to bailments* and #54, *Government contract pricing*. No business subject was used by less than 50% of the more-experienced respondents.

*Acquisition* ratings reveal that at least 65% of respondents believe that every business subject listed should be acquired by CPAs in public accounting, either before or after passing the Uniform CPA examination. Examination of the modal response of the less- and more-experienced respondents reveals general agreement as to whether a particular subject is perceived as necessary primarily before, or primarily after, passing the Uniform CPA examination. For both less- and more-experienced CPAs in public accounting, nearly all business subjects received a modal response of acquisition before passing the Uniform CPA examination. For less-experienced CPAs in public accounting, the only exceptions were: #19, *Implications of employment regulations such as OSHA, ADA, and unfair labor practices*; #20, *Implications of environmental regulations*; #54, *Government contract pricing*; #59, *Procedures to create business plans*; and #67, *Human resource management*—these subjects received a modal response of acquisition after passing the Uniform CPA examination. All of these subjects also received a modal response of acquisition after passing the examination, as rated by the more-experienced CPAs in public accounting, except #59, *Procedures to create business plans*.

#### **4.5.2 Ratings for CPAs in Public and Other-Than-Public Accounting**

Mean *Importance* ratings for respondents in public accounting versus other-than-public accounting are presented in Appendix 4, along with the percentage of respondents in public and other-than-public accounting endorsing each *Usage* and *Acquisition* response category.

Respondents who worked in public accounting rated 40 of the 67 business subjects at least moderately important to their competence as CPAs in public accounting (i.e., mean rating above 2.0), and rated the remaining 27 subjects at least minimally important. Respondents who worked in other-than-public accounting rated 48 of the 67 business subjects at least moderately important to their competence as CPAs in other-than-public accounting—including seven of the eight areas rated at least moderately important by the public accounting cohort—and they rated the other 21 subjects at least minimally important.

*Usage* ratings indicate that 66 of the 67 business subjects were used by at least 50% of the respondents in public and other-than-public accounting, either at the *recall/recognize* level or at the *apply/interpret/integrate* level. Only one business subject was used by fewer than 50% of the CPAs in public or other-than-public accounting: #26, *Laws related to bailments*.

Examination of the modal *Acquisition* rating of the public and other-than-public accountants reveals general agreement as to whether a particular business subject is perceived as necessary primarily before, or primarily after, passing the Uniform CPA examination. For both public and other-than-public accountants, nearly all business subjects received a modal response of acquisition before passing the Uniform CPA examination. For public accountants, only #19, *Implications of employment regulations such as OSHA, ADA, and unfair labor practices*; #20, *Implications of environmental regulations*; #54, *Government contract pricing*; #59, *Procedures to create business plans*; and #67, *Human resource management*, received a modal response of acquisition after passing the Uniform CPA examination. All of these statements, except for #59, *Procedures to create business plans*, also received a modal response of acquisition after passing the examination by other-than-public accountants.

## 5. Conduct of Linking Task

In August 1999, PES developed and implemented a linking task to identify a valid context in the Audit and Financial Accounting and Reporting (FARE) Content Specification Outlines (CSOs) for testing general business knowledge on the Uniform CPA Examination. In the linking task, CPAs were required to “link” the business subjects validated in the *CPA Business Information Survey* to the elements in the Audit and FARE CSOs. Specifically, respondents were presented with a set of business subjects and asked to:

- identify each activity in the Audit CSO in which knowledge and skills related to the business subject plays a key role and contributes to successful performance of the audit activity, and
- identify each element in the FARE CSO in which knowledge and skills related to the business subject contribute to their understanding of that FARE element or their work related to that FARE element.

Appendix 5 contains examples of the linking task for the Audit and FARE CSOs.

To reduce the burden on raters, four versions of the linking task were created. (Performing the entire task would have required a single respondent to evaluate more than 4,000 linkages.) In each version of the task, respondents were asked to link a subset of the 67 business subjects with the Audit and FARE CSOs. Exhibit 4 displays the characteristics of each version of the linking task.

**Exhibit 4**  
**Four Versions of Linking Task**

Version	Business Subjects Evaluated	# of Links
1	11 <i>Economics</i> subjects 4 <i>Organizational Structures</i> subjects	915
2	16 <i>Business Law and Regulation</i> subjects	976
3	11 <i>Working Capital Policy and Management</i> subjects 3 <i>Long-term Finance and Capital Structure</i> subjects	854
4	22 <i>Business Management</i> subjects	1342

Eighty-two CPAs participated in the linking activity. Fifty-six of the participants had previously participated in other aspects of the general business knowledge study, that is, a focus panel, critical incidents interview, or survey pilot test. The other 26 participants were drawn from attendees at *Auditing* and *Business and Industry* focus panels conducted as part of a concurrent large-scale practice analysis of the accounting profession.

Table 14 displays the return rate for the linking task. The return rate was 49% overall, and ranged from a low of 37% for Version 3 to a high of 58% for Version 1.

**Table 14**  
**Return Rate for Linking Task**

Version	Number Mailed	Undeliverable	Number Returned	Return Rate
1	20	1	11	58%
2	21	0	11	52%
3	20	1	7	37%
4	21	1	10	50%
Total	82	3	39	49%

Two sets of criteria were developed to identify strong and moderate links between the validated business subjects and the Audit and FARE CSOs.

“Strong” links between validated business subjects and auditing activities and FARE activities were those which met the following three criteria:

- the business subject was linked to the auditing activity or FARE activity (rated as playing a key role and contributing to successful task performance) by more than 50% of linking task participants;
- the mean *Importance* rating for the business subject was 1.5 or higher (as rated by CPAs with five or less years of experience); and
- the business subject was endorsed as *Acquired Primarily before Passing the CPA Examination* by more than 33% of the total sample of CPAs responding to the survey.

“Moderate” links between validated business knowledge and auditing activities or FARE elements met the following three criteria:

- the business subject was linked to the auditing activity or FARE activity (rated as playing a key role and contributing to successful task performance) by between 34% and 50% of linking task participants;
- the mean *Importance* rating for the business subject was 1.5 or higher (as rated by CPAs with five or less years of experience); and
- the business subject was endorsed as *Acquired Primarily before Passing the CPA Examination* by more than 33% of the total sample of CPAs responding to the survey.

These criteria are consistent with the criteria used in a 1998 study of the information technology knowledge required of CPAs in public accounting (Muenzen and Greenberg, 1998).



Table 15 displays the number of strong and moderate linkages between auditing activities and business subjects. Twenty-five of the 26 auditing activities were strongly linked with at least one business subject. Only one auditing task, *Consider omitted procedures after the report date or the subsequent discovery of facts existing at the date of the auditor's report*, was not strongly linked to any business subject. All 26 auditing activities were moderately linked with at least one business subject.

**Table 15**  
**Number of Linkages Between Auditing Activities and Business Subjects**

<b>Auditing Activities</b>	<b># of Strongly Linked Subjects</b>	<b># of Moderately Linked Subjects</b>
I Plan the engagement, evaluate the prospective client and engagement, decide whether to accept or continue the client and the engagement, and enter into an agreement with the client		
A Determine nature and scope of engagement	23	21
B Assess engagement risk and the CPA firm's ability to perform the engagement	29	18
C Communicate with the predecessor accountant/auditor	2	4
D Decide whether to accept or continue the client and engagement	7	12
E Enter into an agreement with the client as to the terms of the engagement	4	10
F Obtain an understanding of the client's operations, business, and industry	48	18
G Perform analytical procedures	38	10
H Consider preliminary engagement materiality	4	12
I Assess inherent risk and risk of misstatements	25	23
J Consider internal control	8	14
K Consider other planning matters (e.g., using the work of other independent auditors, specialists, or internal auditors; related parties and related party transactions)	1	10
L Identify financial statement assertions and formulate audit objectives	8	17
M Determine and prepare the work program defining the nature, timing, and extent of the auditor's procedures	20	22
II Obtain and document information to form a basis for conclusions		
A Perform planned procedures including planned applications of audit sampling	13	23
B Evaluate contingencies	19	20
C Obtain and evaluate lawyers' letters	4	8
D Review subsequent events	6	26
E Obtain representations from management	8	15
F Identify reportable conditions and other control deficiencies	4	12
G Identify matters for communication with audit committees	6	15
III Review the engagement to provide reasonable assurance that objectives are achieved, and evaluate information obtained to reach and to document engagement conclusions		
A Perform analytical procedures	37	10
B Evaluate the sufficiency and competence of audit evidence and document engagement conclusions	9	26

	# of Strongly Linked Subjects	# of Moderately Linked Subjects
<b>Auditing Activities</b>		
C Review the work performed to provide reasonable assurance that objectives are achieved	4	22
IV Prepare communications to satisfy engagement objectives		
A Prepare reports	3	8
B Prepare letters and other required communications	1	21
C Consider omitted procedures after the report date or the subsequent discovery of facts existing at the date of the auditor's report	0	2

Table 16 displays the number of strong and moderate linkages between FARE activities and business subjects. Twenty-nine of the 35 FARE activities were strongly linked with at least one business subject. Each FARE activity was also moderately linked with at least one business subject.

**Table 16**  
**Number of Linkages Between FARE CSOs and Business Subjects**

FARE	# of Strongly Linked Subjects	# of Moderately Linked Subjects
I Concepts and standards for financial statements		
A Financial accounting concepts	14	19
Financial accounting standards for presentation and disclosures in general purpose financial statements:		
B1 Consolidated and combined financial statements	4	11
B2 Balance sheet	21	8
B3 Statement(s) of income, comprehensive income, and changes in equity accounts	20	21
B4 Statement of cash flows	11	7
B5 Accounting policies and other notes to financial statements	18	19
Other presentations of financial data:		
C1 Financial statements prepared in conformity with comprehensive bases of accounting other than generally accepted accounting principles	0	3
C2 Personal financial statements	1	1
C3 Prospective financial information	10	24
D Financial statement analysis	34	18
II Recognition, measurement, valuation, and presentation of typical items in financial statements in conformity with generally accepted accounting principles		
A Cash, cash equivalents, and marketable securities	9	11
B Receivables	11	11
C Inventories	10	12

	# of Strongly Linked Subjects	# of Moderately Linked Subjects
<b>FARE</b>		
D Property, plant, and equipment	2	6
E Investments	7	6
F Intangibles, and other assets	3	1
G Payables and accruals	8	9
H Deferred revenues	2	7
I Notes and bonds payable	7	9
J Other liabilities	10	5
K Equity accounts	8	3
L Revenue, cost, and expense accounts	25	21
<b>III Recognition, measurement, valuation, and presentation of typical items in financial statements in conformity with generally accepted accounting principles</b>		
A Accounting charges and corrections of errors	1	2
B Business combinations	1	4
C Cash flow components—financing, investing, and operating	9	15
D Contingent liabilities and commitments	8	6
E Discontinued operations	2	5
F Earnings per share	2	7
G Employee benefits	1	1
H Extraordinary items	0	2
I Financial instruments	10	7
J Foreign currency transactions and translation	1	8
K Income taxes	2	4
L Interest costs	0	3
M Interim financial reporting	0	1
N Leases	2	3
O Nonmonetary transactions	0	2
P Quasi-reorganizations, reorganizations, and changes in equity	1	5
Q Related parties	2	3
R Research and development costs	1	2
S Segment reporting	0	5

Appendix 6 provides the detailed results of the linking activity. Each auditing task and FARE task is listed, along with the business subjects with which it had strong and/or moderate links.

At the September 1999 meeting of the COTF, PES presented the results of the survey and the linking task. At that time, PES recommended that the AICPA use the results as guidance to construct examination items addressing general business knowledge for the Uniform CPA Examination.

During a December 16, 1999 conference call between the COTF, AICPA staff, and PES, a decision was made to sort the business subjects into two categories: those that should be tested, and those that should be tested rarely, if ever. The PES criteria for strong linkage were applied to identify areas to be tested. One additional area of business knowledge, *Implications of*

*environmental regulation*, was also placed in the “To be tested” category, based on the professional judgement of the COTF. The remaining subjects, including all subjects with moderate links to the activities in the CSOs, were included in the “To be tested rarely, if ever” pool.

## **6. COTF Recommendations**

Following the December 16, 1999 conference call, the COTF made the following recommendations to the Board of Examiners based on the results of the General Business Knowledge Study.

I. The COTF recommends that one change be made to Law examination CSOs. The personal property CSOs for the Law examination includes the words “personal property, including bailments and ...” in one description of subject matter. Laws relating to bailments was the lowest-ranked of the 67 business subjects on the survey. It is clear that bailments is an unimportant subject and need not be tested. The recommendation is that the phrase “including bailments and ...” be dropped from the law CSOs, and that this be accomplished before the next candidate information booklet is published. The change, a very minor one, should not require a formal exposure process.

II. The Practice Survey recently mailed to 5,000 individuals includes questions that are the same as or similar to the ones used for the General Business Study. The preliminary results of that survey should be available by February or March 2000 and may be compared to the results of the General Business Study. In the interim, the COTF recommends that the results of the General Business Study be distributed to the groups responsible for the preparation of examination questions, and that the groups consider the importance of the subject matter and its links to activity prepared by PES from the study results when preparing questions for the examination.

III. The COTF also recommends that a paragraph be added to *Information for Uniform CPA Examination Candidates* booklet alerting the candidates that they are expected to have a broad knowledge of general business subjects. Suggested wording follows:

“The successful practice of public accountancy requires the CPA practitioner to have a broad knowledge base of business. The CPA candidate is expected to have knowledge of general business sufficient to understand the underlying business purpose and accounting implications of business activity.”

At their January 2000 meeting, the AICPA’s Board of Examiners approved the COTF’s recommended changes, effective with the November 2000 examination.

## 7. References

American Institute of Certified Public Accountants (1997a). *Invitation to Comment: Updating the Uniform PCA Examination Content Specifications*. Jersey City, NJ: Author.

American Institute of Certified Public Accountants (1997b). *Status Report: Updating the Uniform PCA Examination Content Specifications*. Jersey City, NJ: Author.

Muenzen, PM and Greenberg, S (1998). *Uniform CPA Examination Content Specification Update Study: Information Technology Knowledge Required by CPAs in Public Accounting*. New York, NY: Professional Examination Service.

## 8. Appendices