

THE CFA PROGRAM

OUR FIFTH DECADE

Robert R. Johnson, PhD, CFA | Jan R. Squires, DBA, CFA | Peter B. Mackey, CFA | Bobby Lamy, PhD, CFA

THE CFA PROGRAM

On 15 June 1963, 284 senior analysts sat for the first CFA® examination at various cities throughout the United States and Canada (during the initial year, the equivalent of the current Level III examination was the only examination required to earn the CFA charter). According to C. Stewart Sheppard's *The Making of a Profession: The CFA Program* (1992, p. 8), ". . . 268 were successful, and those who failed attributed it mainly to their lack of adequate preparation."

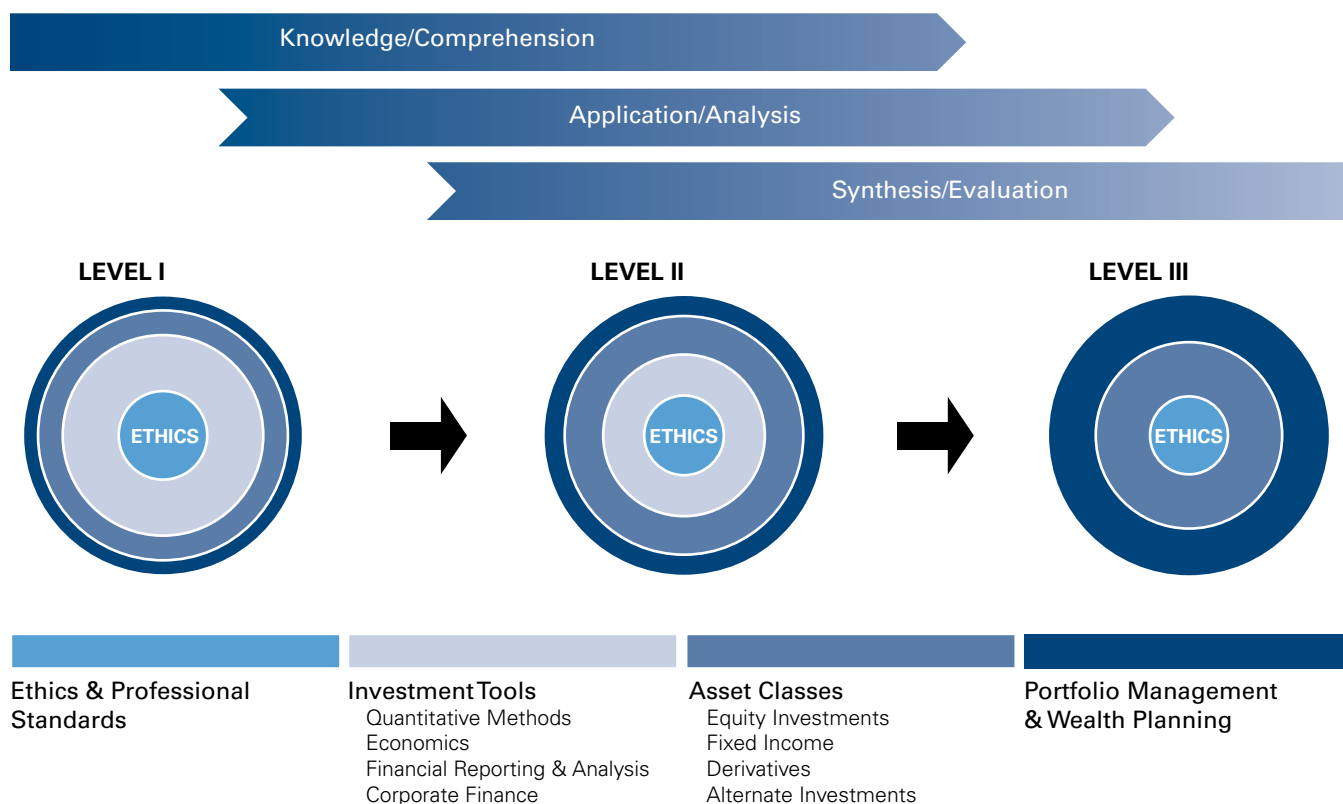
In June 2008, CFA Institute administered the CFA examinations for the 46th year and saw more than 115,000 candidates from over 150 countries register for one of the three levels of the CFA Program. More than 70,000 candidates registered for the Level I December 2008 examination. Growth has been particularly strong since 1990. Much of the growth can be attributed to demand outside of North America, particularly in the Asia-Pacific region. In 2008, more than 60 percent of CFA candidates were from outside North America, with the Asia-Pacific region representing approximately 36 percent of the total.

The program has evolved greatly since its inception. The original program focused on equity security analysis in a U.S. setting and emphasized ethical and professional standards.

Today's CFA Program covers a much broader Candidate Body of Knowledge™ (CBOK™), depicted in **Figure 1**, which reflects the continuing evolution of the profession. Although equity security analysis and ethical and professional standards still occupy a prominent position in the program, so do fixed-income analysis, alternative and derivative investments, portfolio management, and several other topics—all set in a global context. The current program is best described as a self-study, distance-learning program that takes a generalist approach to investment analysis, valuation, and portfolio management, and emphasizes the highest ethical and professional standards.

The purpose of this article is to describe the CFA Program process in detail. You will learn how the CBOK and curriculum are established, how the examinations are developed and administered, and finally, how the examinations are graded and the minimum passing score is determined. After reading this article, we hope you will conclude that the current CFA Program not only maintains but also substantially enhances the value of the CFA charter. Past CFA Institute Chair Frank Reilly, CFA, has aptly described the charter as the "crown jewel" of CFA Institute.

Figure 1
CFA Program CBOK



Practitioners at Every Step of the Process

Education Advisory Committee			Council of Examiners	CFA Institute & Member Volunteers	CFA Institute, Member Volunteers & Consultants	Board of Governors
Global Practice Analysis	Candidate Body of Knowledge™	Curriculum	Examinations	Grading	Standard Setting	Minimum Passing Score

Figure 2

The CFA Program Process

OVERVIEW

The success of the CFA Program is a function of active practitioner involvement. Practicing CFA charterholders are involved at every stage of the process, which is shown in **Figure 2**. The CFA Program is not an academic program but, rather, one that focuses on the global investment management profession from the standpoint of a practitioner. The CFA Program process begins with a global practice analysis—a survey of current practicing investment professionals—to develop the CBOK, which is the foundation of the program. This process is led by the Education Advisory Committee (EAC), a group of prominent volunteer CFA charterholders. With the CBOK determined, CFA Institute staff, members, and consultants design the curriculum with EAC oversight of the process. The Council of Examiners (COE)—comprised entirely of CFA charterholders—then directs the development of the CFA examinations by the CFA Exam Team (a larger group of CFA charterholders who write the examination questions) based on the curriculum.

After administration of the examinations, CFA charterholders from all over the world arrive in Charlottesville, VA, USA, to grade the constructed response (essay and problem) portions of the Level III examinations. Multiple-choice and item-set portions of the Level I, II, and III examinations are machine graded. With grading concluded, additional groups of charterholders convene to “standard set” the examinations. Charterholder members of the CFA Institute Board of Governors then determine the minimum passing score for each level of the examinations.

Level I candidates receive their examination results at the end of July (June examination) and at the end of January (December examination); Level II and III candidates receive their results in mid-August. Only after passing the Level III examination and fulfilling the CFA Program’s work-experience requirement is a candidate awarded the right to use the coveted CFA designation.

CURRICULUM DEVELOPMENT

GLOBAL PRACTICE ANALYSIS

Many credentialing agencies use standardized examinations to ensure that candidates demonstrate a sufficient level of competence in their particular fields of interest. The claim that candidate scores are meaningful indicators of professional competence depends on evidence that supports the examination’s job relatedness or content validity. The Standards for Educational and Psychological Testing state that a practice analysis study—a compilation and confirmation of the knowledge and skills required for competent professional practice—is the basis for establishing the content validity of credentialing examinations. CFA Institute has worked closely with psychometricians—experts in testing and measurement—to develop and refine a high-quality practice analysis.

The CFA Institute Board of Governors first commissioned a practice analysis in 1995; previously, committees of charterholders developed the CBOK. In 2000, the board commissioned Knapp & Associates International, Inc., to assist professional staff in conducting a second practice analysis.

A series of panels and committees consisting of prominent investment practitioners created an inventory of critical

responsibility and knowledge areas. The panels of CFA charterholders around the world were selected to represent the diversity in the profession with respect to geography, work setting, and professional role. The resulting product was converted to a survey and mailed to a global sample of charterholders. A total of 16,103 surveys were mailed, and based on a healthy 23 percent response rate, the results confirmed the work of the panels and committees in identifying the most critical knowledge areas for investment professionals. This practice analysis guided development of the CFA curriculum and the Level I, II, and III examination specifications.

CFA Institute began its third formal practice analysis in late 2004. As with the processes in 1995 and 2000, regional expert panels were convened to define a CBOK that reflects the knowledge, skills, and abilities (KSAs) required of a generalist investment practitioner with four years of experience. The first such panel was held in December 2004, and the process continued with panels involving approximately 330 investment practitioners from 21 cities in 13 countries. A new feature of the third practice analysis was the addition of groups of senior investment professionals, known as employer panels, to

define the KSAs expected of new charterholders. The expert and employer panels were followed by a broad online survey of all active CFA charterholders in February 2006, and a revised CBOK based on the results of the new practice analysis was available in November 2006. The revised CBOK was fully reflected in the 2008 curriculum and examinations. In 2007, the EAC began to conduct the practice analysis continuously rather than every five years, and expanded the focus to include the Global Body of Investment Knowledge™ (GBIK™). A continuous process allows for more real-time inputs into the Global Body of Investment Knowledge while retaining the high standing of the CBOK. The continuous practice analysis process incorporates significantly more member input in the initial phase by using a collaborative website to collect information from around the world.

The GBIK is the comprehensive outline of knowledge for the investment profession. Investment professionals may use GBIK concepts at any stage of their career—novice through expert, generalist, or specialist. The GBIK includes mainstream and frontier concepts based on research that has been, or is being, debated and may encompass views well outside those of the mainstream. The GBIK guides all CFA Institute lifelong learning activities, including publications, conferences, and other continuing education programs. CFA Institute also develops specialty bodies of knowledge for those members practicing in specialty areas such as the private wealth management (PWM) body of knowledge and investment performance measurement (CIPM) body of knowledge. **Figure 3** shows the relationships among these bodies of knowledge.

CANDIDATE BODY OF KNOWLEDGE AND TOPIC AREA WEIGHTS

A major outcome of the practice analysis is an updated CBOK. The CBOK is the scope of knowledge needed for basic competence in investment management, with “basic competence” defined as the baseline level of knowledge and skills required to perform professional responsibilities in an effective and ethical manner.

The CBOK has been gradually broadened from the body of knowledge for the first CFA examination, which focused on 1) investment goals, investment timing, and portfolio balance; 2) institutional investing; 3) ethical issues; and 4) review of securities regulations. Over time, entire topic areas—such as the valuation of fixed income, derivatives, alternative investments, and private wealth management—have been added to keep pace with the changing profession. Because the CFA Program is global in scope and laws and regulations differ among countries, the CBOK no longer includes specific country securities regulations.

In the CBOK, a total of 10 topics are grouped into four functional areas: Ethical and Professional Standards, Investment Tools, Asset Valuation, and Portfolio Management & Wealth

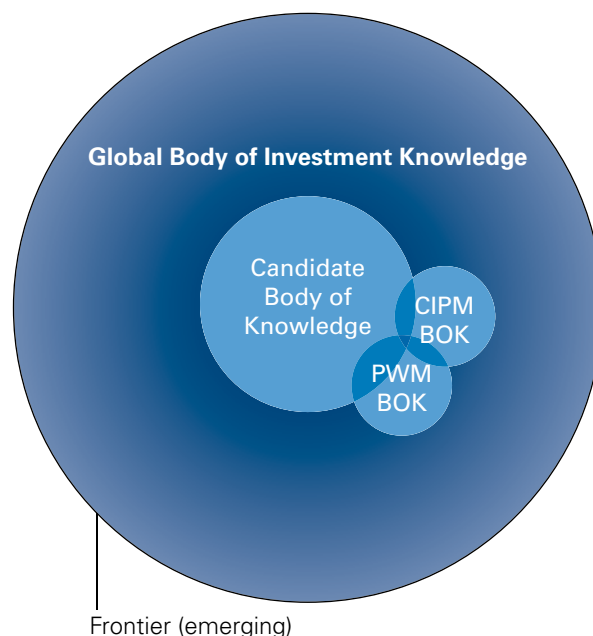


Figure 3
Bodies of Knowledge

Planning, as shown in **Figure 1**. The CFA examinations have always focused primarily on testing investment tools at Level I, asset valuation (investment analysis) at Level II, and portfolio management at Level III. This structure is the logical progression of the investment process: A practitioner needs to master investment tools to apply those tools to security valuation, and securities need to be valued and then analyzed in a risk–return portfolio context. Because integrity must be exercised throughout the investment process, CFA Institute has emphasized ethical and professional standards at each level. Although all CBOK topic areas relate directly to competence in investment management, they do not all have the same degree of impact on professional practice. Some areas may be of greater importance or may be used more frequently than others in day-to-day responsibilities. Consequently, based on practice analysis survey respondents’ recommendations about content coverage, weights are assigned to each topic area to indicate relative emphasis within the CBOK. In turn, these weights, shown in **Table 1**, guide the selection of the curriculum and the development of the examinations.

THE CURRICULUM PROCESS

The CFA curriculum constitutes the study material on which the examination questions are based and provides the foundation for the development of the exams. The curriculum topics are those CBOK elements identified in the practice analysis.

The purpose of the curriculum is to facilitate candidate learning while recognizing the constraints inherent in

Topic Area	Level I	Level II	Level III
Ethical and Professional Standards	15	10	10
Quantitative Methods	12	5–10	0
Economics	10	5–10	0
Financial Reporting and Analysis	20	15–25	0
Corporate Finance	8	5–15	0
Investment Tools	50	30–60	0
Equity Investments	10	20–30	5–15
Fixed Income Investments	12	5–15	10–20
Derivatives	5	5–15	5–15
Alternative Investments	3	5–15	5–15
Asset Valuation	30	35–75	35–45
Portfolio Management and Wealth Planning	5	5–15	45–55
Total	100	100	100

Table 1
Topic Area Weights

Note: These weights are intended to guide the curriculum and exam development processes. Actual exam weights may vary slightly from year to year. Please note that some topics are combined for testing purposes.

a generalist, self-study program designed for working professionals. More than 150 practicing charterholders from throughout the world participate in the annual curriculum review and development process.

The CFA Program is fundamentally different from typical academic programs. The curriculum traditionally has been based on textbooks, professional journal articles, commissioned readings, cases, and research analysts' reports, but it is more than just a reading list. In 1996, CFA Institute significantly improved the design of the curriculum by adding learning outcome statements (LOS) at Level III, which were then incorporated at Levels I and II the following year.

Many involved in the curriculum review and development process believe that reading-specific LOS—a common feature throughout education—are the most significant curriculum innovation since the inception of the program. The purpose of the LOS is to enhance candidate learning while guiding examination writers, the COE, as to what examination questions the curriculum material will support. The LOS link the CBOK to the curriculum and thus to the examinations, which helps candidates prepare for the exacting standards of the investment profession. Finally, the LOS help shape candidate expectations with respect to learning expectations and topic proficiency.

Reading-specific LOS help candidates understand the knowledge they must gain from each reading. Each LOS contains the words, "The candidate should be able to . . .," followed by command words (such as calculate, describe, and analyze) that indicate what candidates can be expected to demonstrate on the examinations.

The COE and CFA Exam Team write examination questions and guideline answers within the bounds of the LOS, often integrating more than one LOS in a question. The COE views the LOS as a contract with the candidates: If

candidates can do what LOS indicate, they should be well prepared for the examinations. It is the job of the CFA Institute staff, with process oversight of the EAC and the input of members, to ensure that the readings enable the candidates to achieve each LOS.

The following is an example of the Level II reading-specific LOS and associated command words from Chapter 16, "Multinational Operations," in *International Financial Statement Analysis* by Robinson, van Greuning, Henry, and Broihahn (2008):

"The candidate should be able to:

- distinguish local currency, functional currency, and the presentation currency;
- analyze the impact of changes in exchange rates on the translated sales of the subsidiary and parent company;
- compare and contrast the current rate method and the temporal method, analyze and evaluate the effects of each on the parent company's balance sheet and income statement, and distinguish which method is appropriate in various scenarios;
- calculate the translation effects, evaluate the translation of a subsidiary's balance sheet and income statement into the parent company's currency, use the current rate method and the temporal method to analyze how the translation of a subsidiary's financial statements will affect the subsidiary's financial ratios, and analyze how using the temporal method versus the current rate method will affect the parent company's financial ratios;
- illustrate and analyze alternative accounting methods for subsidiaries operating in hyperinflationary economies."

CURRICULUM INNOVATIONS

In response to candidate demand, CFA Institute began phasing in a customized format for delivery of the curriculum for the 2006 exam. CFA Institute sequenced the LOS and assigned readings in conformity with the study sessions and

assembled those components into self-contained volumes. The improved packaging offers candidates a more user-friendly and integrated curriculum that reduces candidate costs and facilitates examination preparation.

Historically, the curriculum was drawn from existing professional and academic publications. CFA Institute advisory committees, however, recognized the disadvantages of these “off-the-shelf” sources. For instance, college texts are often overly academic and “country-centric,” while practitioner texts are rare and often inappropriate for a generalist. Journal articles often presume more knowledge than is required of a generalist. Perhaps the greatest weakness in off-the-shelf products is that they often contain a significant amount of material outside the CBOK. As a result of these disadvantages, much of the curriculum now consists of materials developed specifically for the CFA Program.

The following principles have been established for the development of CFA Program curriculum. The material must be:

- faithful to the practice analysis and CBOK;
- valuable to members, employers, and investors;
- globally relevant;
- generalist (as opposed to specialist) in nature;
- appropriate for a new charterholder;
- replete with examples and practice problems both within and at the end of readings;
- pedagogically sound in a self-study framework; and
- testable.

Curriculum development is not a recent phenomenon at CFA Institute. In *The Making of the Profession: The CFA Program*, Sheppard notes the “marked paucity in 1965 of relevant study guide materials” and states, “Gone were the days when reliance could be placed on general textbooks and selected articles” (p. 10). Since that time, CFA Institute (known as Institute of Chartered Financial Analysts at the time and later as Association for Investment Management and Research) has worked closely with many subject matter experts, authors, and publishers to customize materials for the CFA Program.

A cornerstone of the CFA curriculum has been the book *Managing Investment Portfolios* (1983), edited by John L. Maginn, CFA, and Donald L. Tuttle, CFA. The third edition of this seminal work was produced by CFA Institute in 2006. The 2001 curriculum introduced *Fixed Income Analysis for the Chartered Financial Analyst Program* (2000) and *Fixed Income Readings for the Chartered Financial Analyst Program* (2000), each by Frank J. Fabozzi, CFA. *Quantitative Methods*

for Investment Analysis was first published in 2001 and was revised in 2004. *Analysis of Equity Investments: Valuation*, published in 2002, is the focus of the Level II equity analysis curriculum. *Analysis of Derivatives for the CFA® Program* was published in 2003 and is the foundation of the derivatives curriculum at all three levels. *International Financial Statement Analysis* was introduced in the 2008 Level I curriculum, with additional IFSA readings developed for the 2009 curricula for Levels I and II.

A distinguishing feature of CFA Institute curriculum development is the extensive review process to which all products are subject. Practicing charterholders review each reading or article to ensure that it is conceptually correct and relevant. Practitioners from all over the world participate in this process. In reference to the aforementioned texts, Fabozzi said: “Of all the books I have authored (more than 100), these books have been the hardest to write. . . . The reviewers made me an almost paranoid writer, as every word and statement was scrutinized to make sure it would be clearly understood by the CFA candidate.”

Providing a testament to the quality of the CFA curriculum, many academic institutions have designed degree programs around the CFA Program, adopted CFA Program curriculum materials, or embedded the entire CFA Program CBOK into their programs. Such universities as the Oxford University, Cornell, HEC, the University of Virginia, Concordia University, London Business School, and the University of North Carolina have adopted all or part of the CFA Program CBOK. Indeed, this adoption trend led CFA Institute to create an educational partnership program: CFA Program Partners.

The purpose of the CFA Program Partners is to encourage serious students to focus on the professional side of investment management and to view their university studies and CFA work as part of an integrated lifelong learning program. As an educational partner, a university is able to promote the CFA Program in its own global recruiting strategy, and faculty and students have the opportunity to interact with professionals from local CFA Institute societies. At the heart of the partnership program is the leadership role in ethics of CFA Institute, facilitating the study of ethics in university programs that are developing serious investment professionals. Find out more about CFA Program Partners at: <http://www.cfainstitute.org/cfaprogram/university/partners.html>



EXAMINATION DEVELOPMENT

When the first CFA charters were awarded in 1963, candidates had to successfully complete a single four-and-a-half-hour examination to earn the charter. The examinations were given in two separate two-hour-and-fifteen-minute sessions. In 1964, all three levels of the examination were administered to 1,732 candidates in the United States and Canada. In 1968, the examination consisted of two sessions for a total of five hours and fifteen minutes. The year 1981 marked the first time that the examinations totaled six hours in length. CFA Institute has retained the current format of two separate three-hour sessions since that time.

EXAMINATION CONTENT

A commitment to excellence in the development of the CFA examinations has been the hallmark of the program. The COE and CFA Exam Team write the examinations with CFA Institute staff assistance. In 1963, the original COE consisted of four U.S. academic experts and the president of the Montreal Stock Exchange. Today, the COE and CFA Exam Team consists of approximately 65 global CFA charterholders, representing a mix of practitioners and academics. In addition, a similar number of charterholders from across the globe are involved in an extensive review process. CFA Exam Team members are recruited based on their expertise in diverse areas of investment practice and the CFA curriculum. Prospective members are often identified on the basis of other services supporting the CFA Program (e.g., standard setting, curriculum development, exam review, grading).

Each exam development cycle starts more than a year in advance of the Level II and III examinations and seven to eight months in advance of the Level I examinations. Each cycle begins when COE leaders meet to set the guidelines for the next examination. These guidelines are disseminated to CFA Exam Team members, who then begin drafting questions before the first of a series of team meetings. To be included on the CFA examination, a question must relate directly to one or more curriculum LOS. CFA Exam Team members are also encouraged to draw on assigned curriculum problems for ideas on question structure and content.

Throughout the development process, the COE and CFA Institute staff work with psychometricians. COE and CFA Exam Team members pay careful attention to question construction. And because the CFA Program is global in scope, team members consider language usage and grammar as well. Once the examination is in nearly final draft form, CFA Institute staff conducts review sessions with charterholders from around the world. Participants review the questions to ensure that the language is clear, simple, unambiguous, and free of cultural bias. Reviewers also identify any investment practices that may confuse candidates in their regions. Input received in these sessions is delivered to the question writers, who then have the opportunity to revise the questions before the printing of the examination.

CFA Exam Team members are generally asked to write two or three item-set or essay questions or approximately 30 multiple-choice questions in their assigned topics. The CFA Exam Team develops more questions than needed so that the COE leadership can select the best portfolio of questions to appear on the examinations.

The CFA Exam Team rewrites examination questions several times during a development cycle. Each new version benefits from continual review by the COE and CFA Exam Team members as well as expert and generalist volunteer and staff reviewers. During the cycle, hundreds of hours of review time contribute to the improvement of examination questions.

CFA Exam Team members are also responsible for writing guideline answers, grading keys, LOS and reading references, answer justifications, and other supporting documentation.

LEVEL I EXAMINATION

The format of the Level I examination is entirely multiple choice. There is a long history of multiple-choice questions on the CFA examinations, dating back to 1968 when 25 multiple-choice questions first appeared at Level I. By 1986, 50 percent of the Level I examination was multiple choice. The first all multiple-choice Level I examination was administered in 1996.

Level I multiple-choice questions are crafted with each of the incorrect responses (distracters) carefully constructed to represent common mistakes in either calculation or logic. A Level I examination consists of 240 questions to be completed in a six-hour time frame.

A new Level I examination is produced for each administration. CFA Institute does not release the entire Level I examination; however, to orient candidates to the style and format of the questions, past examination questions are included as practice problems at the end of curriculum readings and in the online sample and mock exams. One or more online and mock exams may be included in materials offered to each registered candidate, and additional exams are available for a fee. In addition, a small sample of Level I questions are available on the CFA Institute website: <http://www.cfainstitute.org/cfaprog/courseofstudy/sample.html>

LEVEL II AND III ITEM-SET QUESTIONS

The current Level II examination consists entirely of item-set questions, and Level III consists of constructed response questions (morning session) and item-set questions (afternoon session). The CFA Institute Board of Governors first directed the COE to use the item-set format on the ethics portion of the 2000 Level II and III examinations. The following year, the board directed the COE to use the item-set format for 50 percent of the Level II and III examinations. Beginning in 2005, the Level II examinations have been

entirely in item-set format. There is currently no initiative to move Level III entirely to item-set format. Sample item-set questions are available on the CFA Institute website: <http://www.cfainstitute.org/cfaprogram/courseofstudy/sample.html>

Testing research has shown that examinations consisting of multiple-choice items (and item sets) typically have greater validity, reliability, efficiency, and cost-effectiveness than constructed response (essay) questions addressing the same topics. Validity indicates that an examination is measuring what it intends to measure; reliability provides an indication of the accuracy of that measurement; efficiency refers to the breadth and depth of topic coverage; and cost-effectiveness refers to the economics of constructing and grading the examination. The CFA Institute Board of Governors considered these factors before making the determination to emphasize the item-set testing format.

Testing research also indicates that the format of the examination has little impact on the difficulty of the examination. Difficulty is primarily a function of the subject matter and question construction. Most importantly, multiple-choice and item-set questions can be used to test higher-level thinking, including critical thinking and problem solving. Although the multiple-choice and item-set formats are not appropriate for testing creative thinking and writing abilities, the CFA Program is not intended to test those skills (and these abilities would be difficult to fairly assess for a large global candidate population). Nearly all licensing and professional credentialing examinations with large candidate populations are conducted in the multiple-choice and/or item-set formats.

LEVEL III CONSTRUCTED RESPONSE QUESTIONS

The constructed response portions of the Level III examination (morning session) include questions with varying structure and point values. Questions are organized in groups related to a case or vignette that describes investment challenges facing hypothetical individuals or institutions. Each question begins with a command word that corresponds to the command words contained in the curriculum LOS. Typical command words appear on the CFA Institute website: <http://www.cfainstitute.org/cfaprogram/courseofstudy/commandwords.html>

Constructed response examination questions have changed significantly over the history of the CFA examination. In the early years of the examination, large point value, open-ended questions were common. For instance, the 1965 Level III examination contained the following 25-minute question:

"The value of a common stock or any other security is what you can sell it for."

Analyze the above statement and explain fully how you would arrive at the value of a common stock.

Today's CFA examination questions are less open-ended and of smaller point values in order to sample more of the assigned curriculum. Questions are often presented in template format to assist candidates in following the logic of the application being tested and to give candidates an idea of how much writing is needed to adequately answer the question.

It was common on the early CFA examinations to give candidates choices. Candidates were allowed to select the industry of their choice, the institution of their choice, or even which of two or three questions from a longer list they wanted to answer. For example, the 1965 Level III examination gave candidates the choice of answering either a bond or stock valuation question. That same examination gave candidates the choice of one of eight institutions (e.g., investment companies, endowment funds, pension funds) as the subject of a question and also asked candidates to answer a question in the industry of their choice.

Today's CFA examinations cover all of the broad topics in the CFA Program curriculum. Candidates must answer the entire set of questions, each based on specific readings. This policy is consistent with the premises that the CFA examination takes a generalist approach to investment analysis and portfolio management and that all successful candidates have mastered the same curriculum. One of the strengths of the CFA Program often cited by employers is that charterholders are knowledgeable even in investment topics in which they are not expert.

Candidates today are also given an indication as to how much detail is required to successfully answer a question. For example, questions may state, "Discuss three reasons..." and the candidate will have a good indication of how much discussion is necessary.

Although it may appear that the constructed response and problem portion of the CFA examinations has remained constant since the founding days of the program, today, the candidates' responses require a higher degree of specificity. The current CFA examinations are dramatically different from the examinations given in the early history of the program, properly reflecting the evolution of both investment management practice and testing techniques used to evaluate that practice.

Constructed response questions that have appeared on recent exams are available on the CFA Institute website: <http://www.cfainstitute.org/cfaprogram/courseofstudy/sample.html>

Note that guideline answers published by CFA Institute reflect most of the answers that received high scores on each question. There may often be more than one appropriate (and full credit) answer to a question. All possible approaches that received high scores are not necessarily included in a published guideline answer.

EXAMINATION ADMINISTRATION

Once the COE and CFA Exam Teams finish writing the CFA examinations, the examination books are produced following a secure workflow process developed by CFA Institute and its vendors. After printing and before distribution, the CFA Institute staff performs quality control checks on examination books to ensure the quality of the printing process. The books are then distributed globally and securely stored until exam day.

CFA Institute enlists the help of professional testing personnel around the world, who are responsible for selecting and training examination proctors to administer the test with the utmost attention paid to the security and integrity of the examination process. In addition, trained CFA Institute employees travel to the larger test centers to observe testing operations and ensure that the administration runs as smoothly as possible.

In June 2008, the one millionth CFA examination was administered. For fiscal year 2008 (September 2007–August 2008), more than 129,000 candidates (approximately 25 percent of registered candidates are “no-shows”) from 141 countries tested in 86 nations around the world. This current situation is in sharp contrast to 1985, when only 70 of 4,285 candidates sat for the examinations outside of North America.

CFA Institute strives to produce a fair and equitable testing environment and to ensure the safety of CFA candidates and testing personnel. To ensure the integrity of the process, strict testing rules are enforced. Candidates are required to

present a current government-issued photo ID for admittance to the examination to ensure that charters are being awarded only to those individuals who actually passed the examinations. Candidates are required to use only approved calculator models to ensure that no candidates use calculators that have the ability to store text in memory and thus gain an unfair advantage. Unauthorized personal belongings are not permitted in the testing room. CFA Institute consults with other respected testing organizations in an effort to improve policies and practices. Security and testing rules will continue to evolve. You can review testing policies on the CFA Institute website: <http://www.cfainstitute.org/cfaprog/resources/examdetails/policies/index.html>

The CFA Institute Professional Conduct Program investigates matters involving alleged violations of the CFA Program rules and regulations. Sanctions are imposed on candidates found to have violated the rules and regulations, such as writing past time, using scratch paper, and giving/receiving assistance during the examination. Since 1998, CFA Institute has imposed more than 1,100 sanctions on candidates, ranging from private censure to prohibition from further participation in the CFA Program. In conjunction with the sanctions, the candidates’ examination results were usually voided.

Once the examinations have been successfully administered, they are collected, reconciled, and returned to CFA Institute headquarters for processing and grading. It may take as long as two weeks for all exams to be returned because of complex customs procedures in some countries.

GRADING

Immediately upon receipt at CFA Institute, all exam materials are individually reconciled with attendance rosters and prepared for the grading and quality control processes. The first step in the grading process is the machine grading of all multiple-choice and item-set exam answer sheets. This process also encompasses a number of quality controls such as checking damaged papers and independently hand grading a random sample representing 5-10% of candidate’s answer documents.

Another quality control during this time period is the investigation of all comments and complaints related to the examinations. The staff reviews the exam questions and answers, curriculum readings, and exam results related to each comment or complaint. Special focus is given to reviews under any of the following circumstances: multiple similar complaints, exam results suggesting more than one correct answer, or exam results that otherwise suggest that a question was confusing or unfair. If, after investigation, a question is determined to be confusing or unfair, results are adjusted to credit all answers. If more than one answer was correct, then all correct answers are credited.

In 2008, more than 340 individuals from 31 countries spent between a week and two weeks in Charlottesville, Virginia, USA, exercising one of the most important duties available to CFA charterholders—grading the constructed response portions of the Level III CFA examination.

The involvement of CFA charterholders in the grading of examinations is one of many checks and balances in the CFA Program designed to ensure that each candidate receives fair and consistent evaluation. The identity of all candidates is held in the strictest of confidence. Examination books identify candidates only by number. Graders do not know the name or even the geographic origin of the candidates whose examinations they evaluate.

To ensure that each grader has adequate time to prepare, graders receive their question assignments, appropriate curriculum materials, and draft guideline answers and grading keys well in advance of the grading session. This process allows graders to suggest changes to the guideline answers and grading keys before grading begins.

Graders are separated into grading teams that include both experienced and first-time graders. Each team grades a specific question or question part(s), which brings a high level of specialization to the process. Each team has a captain, an assistant captain, and senior graders. These team leaders review all suggestions made by graders before grading. They also review a large sample of actual candidate answers to ensure that the grading keys credit all valid responses and award partial credit consistent with the relative importance of the information provided by the candidate. After extensive review and trial application, grading coordinators approve the final grading keys that will be applied to the assigned question. Graders undergo extensive training with respect to evaluation procedures and techniques.

Grading coordinators oversee the grading process, ensuring that all grading teams treat candidates consistently across questions. Once grading begins, captains, assistant captains, and other assigned leaders spend much of their time reviewing graders' work to ensure that points are awarded accurately and consistently across the team.

Quality control is built into all aspects of the grading process. Access to the examination grading center is closely monitored. CFA Institute staff members assemble examinations into stacks of 20 books. Only graders are permitted to check out examinations, and they may grade only their assigned question, one stack at a time. A formal audit process compares and reconciles points awarded by individual graders, with points awarded by the team captain for the same candidate's response to a given question on a sample of exam papers. Team captains (and coordinators) are provided with detailed daily statistical reports (including audit reports) to ensure that grading is consistent and accurate.

Grading coordinators, team captains, and CFA Institute staff meet daily to ensure consistent application of grading policies. Examinations are also checked several times during grading to be sure that no recording errors or data entry errors have been made. The error checking process is repeated several times and continues after the grading process has been completed.

After all examinations have been fully graded during the first week, approximately the middle 50 percent of the distribution of scores are graded in their entirety again—a process known as senior grading. Senior graders, approximately half the initial grading group, are not permitted to re-grade papers that they graded during initial grading. The purpose of senior grading is to ensure that candidates whose papers fall within a large range that encompasses possible minimum passing scores are afforded every opportunity to pass the examination.

All examinations are subject to an additional quality control check. CFA Institute staff review each examination book page by page to ensure that every candidate answer was located, graded, and scored and that the number of points awarded by the grader on the inside of the examination book is consistent with the score recorded in the grading database.

STANDARD SETTING

In 1996, a methodology for arriving at the minimum passing score (MPS)—the modified Angoff Standard Setting Method—was introduced to the CFA Institute Board of Governors. A 2001 survey of professional credentialing programs found that 85% used standard setting, including the Certified Financial Planner (CFP) and Certified Public Accountant (CPA) U.S. designations. Of those using standard setting, 88% used the Angoff method.

The Angoff method has been used as a criterion for the establishment of the MPS for the Level I examination since 1996, for Level II beginning in 2005, and for Level III beginning in 2007. CFA Institute retains independent psychometricians to conduct two-day standard setting workshops.

This method involves a large and diverse group of CFA charterholders. The lead psychometrician divides participants into two smaller groups for each level of the examinations. Each participant reviews the entire examination question by question and makes an independent judgment on the expected performance of a just-competent candidate on each question on the examination.

Participants review the entire examination a second time after briefly viewing general impact data and overall actual candidate performance on the exam. In the second round, each participant again records his/her judgment as to the expected performance of a just-competent candidate on each question. In this way, both difficulty of the examination content and actual candidate performance are considered. The workshops result in MPS recommendations that equate to competence in the subject matter from the perspective of demographically representative groups of charterholders. The size of the group, its diversity, and its reliance on independent judgments contribute to the power of standard setting results.

SETTING THE MINIMUM PASSING SCORE

CFA charterholder members on the CFA Institute Board of Governors set the MPS each year. The board convenes approximately five to six weeks following the Level I exam to determine the MPS and approximately seven weeks after the Level II and III exams to determine the MPS. This is one of the board's most important responsibilities. Although pass rates may fluctuate, the board's objective is to set a consistent standard competency level across years.

The board must assess the difficulty of the examinations and the demonstrated competency of candidates. The board considers all available information relevant to these factors. The results of the standard setting workshops are the most important input. From the board's perspective, standard setting is a systematic process that adheres to sound psychometric principles, providing the board with a valid range of MPS values.

CFA Institute professional staff and the board will continue to monitor advances in the psychometric field to augment the information currently used to set the MPS.

PASS RATES

Following the Board's MPS decision, CFA Institute processes the results and conducts a variety of quality control measures before the results are released to candidates. The time period required is the minimum necessary to ensure that the MPS is set in accordance with best practices in testing and that every candidate's paper is processed with appropriate due diligence.

Figure 4 provides the combined (or weighted average) pass rates for the CFA examinations since 1963. The combined pass rate is determined by multiplying each Level's pass rate by the percentage of candidates who sat for that Level of the examination. For example, in June 2008, the individual pass rates for Levels I, II, and III were 35 percent, 46 percent, and

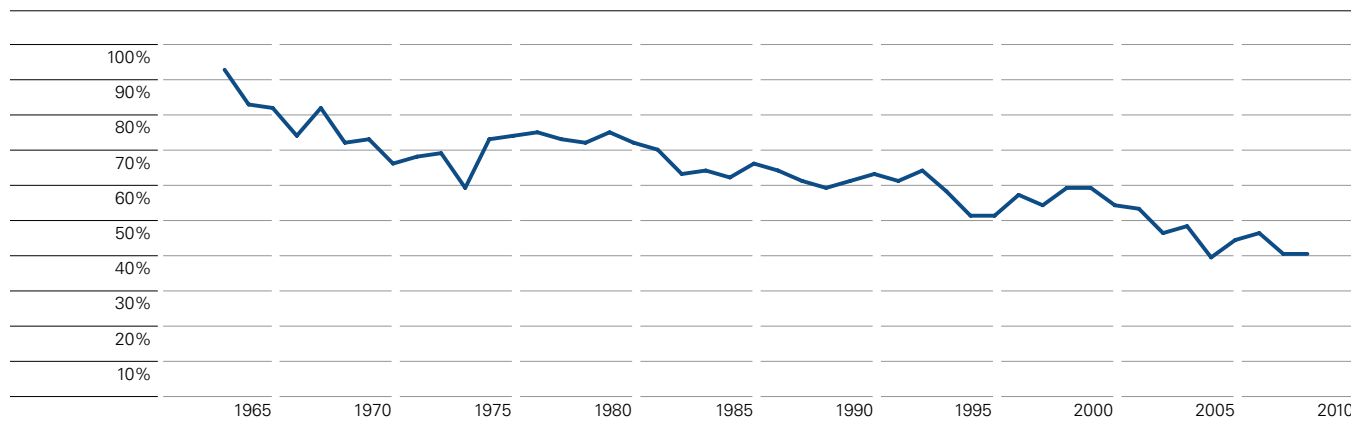
witnessed pass rates in the mid- to upper 60 percent range. The year 2002 was the first time the combined pass rate fell below 50 percent; since then, combined pass rates have ranged from 40 to 52 percent. Falling pass rates over time reflect, among other things, the expansion of the candidate pool, candidate aptitude, and candidate preparation habits.

Candidates receive examination results in late July or mid-August (for the June examination) and late January (for the December examination). Candidate results are available in a secure section of the CFA Institute website. CFA Institute posts scores as "pass" or "fail" and provides candidates with an indication of performance across topic areas or questions to help identify strengths and weaknesses. Candidates learn whether they scored less than 50 percent of the points, between 50 and 70 percent of the points, or above 70 percent of the points on specific topics for multiple choice and item set and by question for constructed response.

For the first time in 2008, CFA Institute provided failed candidates with additional information to help them decide whether to continue to pursue the designation. The total number of candidates who failed at each level were divided into 10 groups or score bands. Failing candidates can now see how they performed relative to all other failing candidates. The highest score bands indicate proximity to the MPS. CFA Institute does not release the MPS or individual

Figure 4

Combined Pass Rates: 1963–2008



53 percent, respectively—a combined pass rate of 42 percent. Pass rates are calculated from those candidates who actually sat for the examination. If CFA Institute were to include the approximately 25 percent of enrolled candidates who register but do not sit for the examination (no-shows) each year, pass rates would be substantially lower.

As the chart shows, the combined pass rates have dropped dramatically over time. In the early years of the program, these rates were in excess of 80 percent. In the 1970s, pass rates were typically above 70 percent, while the 1980s

witnessed pass rates in the mid- to upper 60 percent range. The year 2002 was the first time the combined pass rate fell below 50 percent; since then, combined pass rates have ranged from 40 to 52 percent. Falling pass rates over time reflect, among other things, the expansion of the candidate pool, candidate aptitude, and candidate preparation habits.

THE FUTURE OF THE CFA PROGRAM

We hope after reading this article you agree that the standards and rigor of the CFA Program have been maintained and even

enhanced. The stakes of the CFA Program are higher than ever as the CFA charter has become a de facto condition of employment in many investment management organizations.

In addition, largely as a result of CFA Institute advocacy efforts, the CFA designation is highly regarded by regulators throughout the world: <http://www.cfainstitute.org/centre/overview/waiverrequirements>.

The list of countries that now require investment professionals to pass one or more levels of the CFA exam to practice in their jurisdictions is growing. For example, the Monetary Authority of Singapore has recognized the CFA designation as meeting certain qualification or licensing requirements, as have regulators in Greece, Turkey, Hong Kong, Thailand, the United Kingdom, and in seven Canadian provinces (Ontario, Nova Scotia, Newfoundland, Saskatchewan, Alberta, British Columbia, and Quebec). These actions on behalf of charterholders enhance the value and substantially increase public recognition of the charter.

All but three of the U.S. state securities commissions that require investment adviser and investment adviser representatives to pass a licensing examination grant CFA charterholders a blanket exemption. Notably, the CFA designation is one of only a handful of designations that have been awarded this status by U.S. state securities commissions and regulators. In addition, the New York Stock Exchange and the National Association of Securities Dealers provide an exemption from the analytical portion of the Series 86 Examination for certain applicants who have passed Level II of the CFA examination.

CFA Institute staff and CFA charterholder volunteers involved in the activities described in this article are committed to upholding fair and consistent standards for obtaining the CFA charter. The CFA Institute Board of Governors established a clear guiding principle for governance of the CFA Program on which all decisions will be made: "Never lower standards, either educational or ethical. Growth for growth's sake is not the goal." This commitment to upholding ethics, educational rigor, and professional excellence is why *The Economist* termed the CFA charter "the gold standard" in a February 2005 article.

The CFA Program will continue to evolve to meet the changing needs of the capital markets. We are proud of the CFA Program and its history. As emphasized throughout this article, much of the success of the CFA Program is attributable to the participation of many practitioner charterholders who, with CFA Institute staff, specify the CBOK, develop the curriculum and examinations, and grade and recommend the passing standards for the examinations to the Board of Governors.

Our profession is fortunate in that a large number of CFA charterholders are willing to commit their time and effort to the program. If you are a CFA charterholder and would like to participate in any of the activities described in this article, please visit the members section of the CFA Institute website (<http://www.cfainstitute.org/memresources/getinvolved/index.html>) to volunteer.