

THE CFA[®] PROGRAM



Where Theory
Meets Practice



CFA Institute

THE CFA PROGRAM

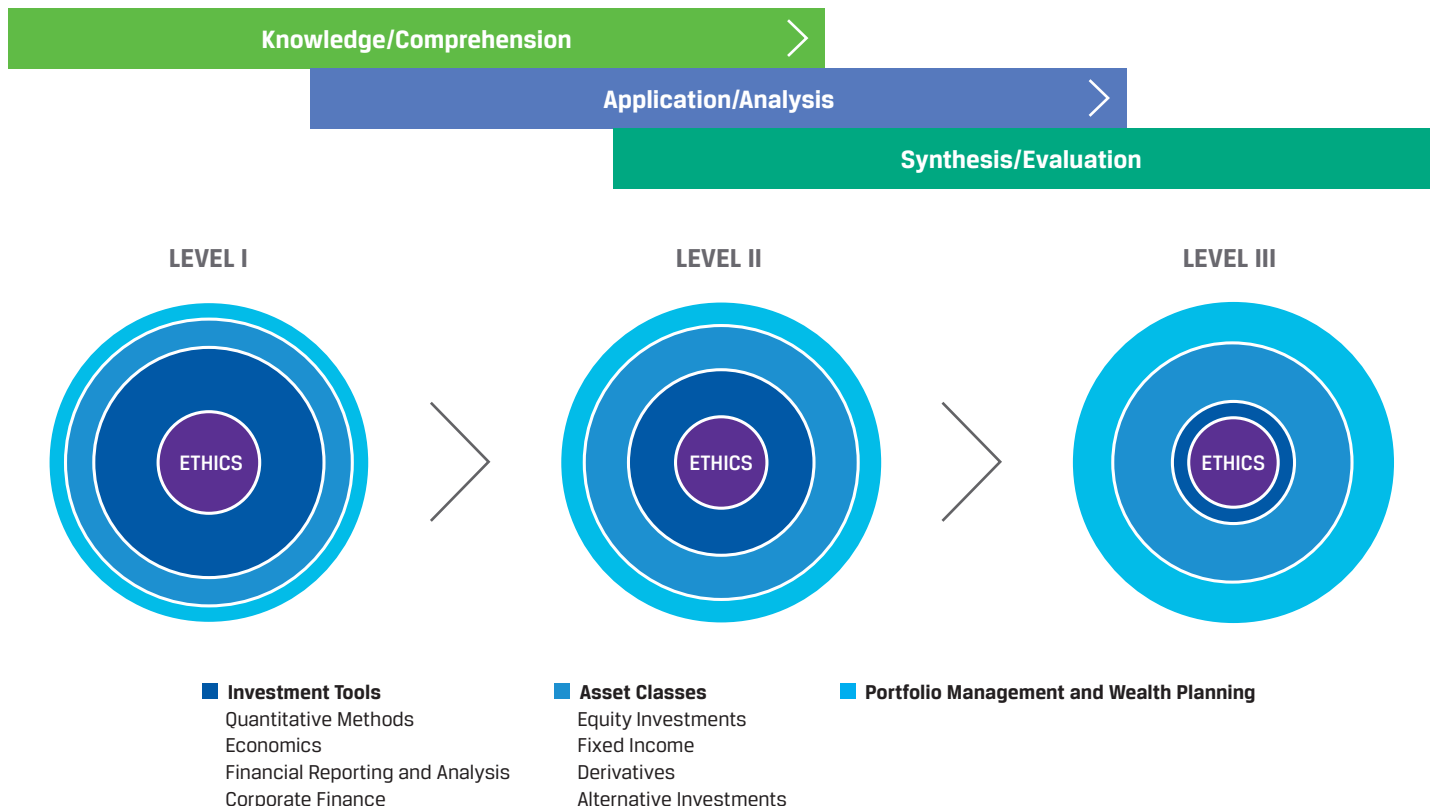
On 15 June 1963, 284 senior analysts sat for the first CFA examination in various cities throughout the United States and Canada. During the initial year, the equivalent of the current Level III exam was the only examination required to earn the CFA charter. According to C. Stewart Sheppard's *The Making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

The program has evolved greatly since its inception. It began with a focus on equity security analysis in a US setting and emphasized ethical and professional standards. Today's CFA Program covers a much broader Candidate Body of Knowledge™ (CBOK™), as shown in Figure 1, which reflects the investment profession's continuing evolution. Although equity security analysis and ethical and professional standards remain prominent aspects, the program now also includes 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 with a generalist approach to investment analysis, valuation, and portfolio management. The

program continues to emphasize the highest ethical and professional standards.

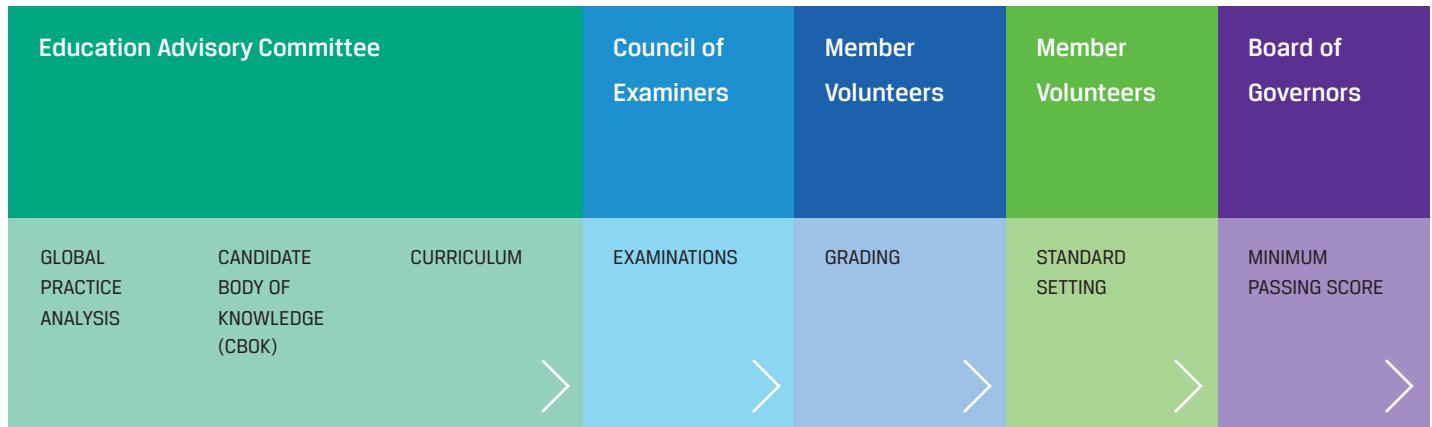
This article describes the CFA Program process in detail. You will learn how the CBOK and curriculum are established, how the examinations are developed and administered, and finally, how the examinations are graded and how the minimum passing score is determined. After reading this article, we hope that you will conclude that the current CFA Program 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 CANDIDATE BODY OF KNOWLEDGE (CBOK)



Practitioners at Every Step of the Process

FIGURE 2
THE CFA PROGRAM PROCESS



The CFA Program Process

The CFA Program's success relies on active practitioner involvement. Practicing CFA charterholders are involved at every stage of the process, as Figure 2 illustrates. The program is not primarily an academic one—rather, it focuses on the global investment management profession from a practitioner's standpoint. The CFA Program process begins with a global practice analysis—discussions with subject matter experts, industry stakeholders, and practitioners, followed by a survey of current practicing investment management professionals—to develop the CBOK, which is the program's foundation. The Education Advisory Committee (EAC), a group of prominent volunteer CFA Institute members, leads this process, with critical input from supporting committees. With the CBOK determined, CFA Institute staff, members, and consultants design the curriculum with EAC oversight of the process. The Council of Examiners (COE)—consisting of only CFA charterholders—then directs the development of the CFA examinations by the CFA exam writing team (a larger group of CFA charterholders who write the examination questions), based on the curriculum.

After administration of the examinations, CFA charterholders from around the world arrive in Charlottesville, Virginia, United States, to grade the constructed response (essay and problem) portions of the Level III examinations. Multiple-choice and item set portions of the Levels I, II, and III exams are i.e., 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 exam level.

Levels I and II candidates receive their examination results at the end of July (June examination) and at the end of January (December examination for Level I only); Level III candidates receive their results in early August. Only after passing the Level III exam and fulfilling the CFA Program's work-experience requirement can a candidate use the coveted CFA designation.

FIGURE 3
BODIES OF KNOWLEDGE



Global Practice Analysis

Many credentialing agencies use standardized examinations to ensure that candidates demonstrate sufficient competence in their particular fields of practice. The claim that a candidate's performance on an exam provides a meaningful indicator of professional competence depends on evidence that supports the exam'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—forms 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 and Associates International, Inc., to assist staff in conducting a second practice analysis.

Since that time, a number of associated committees and working bodies have been created to provide guidance to the EAC. In 2017, a Society Practice Analysis Consortium (SPAC) was established with an inaugural group of 10 societies to provide the EAC with inputs on trends in the investment management industry, topics/issues for evaluation, and emerging issues in the marketplace that may require analysis.

A series of panels and committees consisting of prominent investment practitioners created an inventory of critical responsibility and knowledge areas. These panels of CFA charterholders around the world were selected to represent the profession's diversity with respect to geography, work setting, and professional role. The resulting inventory was converted to a survey, and a total of 16,103 surveys were mailed to a global sample of charterholders. The results confirmed the work of the panels and committees in identifying the most critical knowledge areas for investment management professionals. This practice analysis guided the development of the CFA Program curriculum and 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 reflected the knowledge, skills, and abilities (KSAs) required of a generalist investment practitioner with four years of experience. A new feature of the third practice analysis was the addition of groups of senior investment management professionals, known as employer panels, to define the KSAs expected of new charterholders. The expert and employer panels were followed by a broad survey of all active CFA charterholders in February 2006, and a revised CBOK based on the results of the new practice analysis became available in November 2006. The 2008 curriculum and examinations fully incorporated this revised CBOK. In 2007, the EAC decided to conduct the practice analysis continuously rather than every five years to ensure that the CBOK continues to reflect the investment management industry's ever-changing demands. A continuous process allows for more real-time inputs while maintaining the CBOK's high standing. The continuous practice analysis process also incorporates significantly more member input, in the initial phase, using social media and other online venues to collect input from investment management professionals around the world. In addition, the focus was expanded to include the development of a Global Body of Investment Knowledge™ (GBIK™).

The GBIK is a comprehensive outline of knowledge for the investment management profession. Investment management professionals can use GBIK concepts at any stage of their career—novice through expert, and generalist or specialist. The GBIK includes mainstream and frontier concepts based on research that has been or is being debated, and it may encompass views well outside the mainstream. CFA Institute staff use the GBIK to guide all CFA Institute lifelong learning activities, including publications, conferences, and other continuing education programs. CFA Institute also develops the CBOK for the Certificate in Investment Performance Measurement (CIPM®) Program as well as specialty bodies of knowledge for those members practicing in investment specialties such as private wealth management (see Figure 3).

In September 2009, the GBIK was published for the first time. This revised GBIK reflects many new and enhanced topics identified through the continuous practice analysis process. Since then, the GBIK has been updated annually to reflect the changes identified by practitioners through this process. The current GBIK is available on the CFA Institute website (www.cfainstitute.org/gbik).

TABLE 1
TOPIC AREA WEIGHTS

Topic Area	Level I	Level II	Level III
Ethical and Professional Standards	15	10-15	10-15
Quantitative Methods	12	5-10	0
Economics	10	5-10	5-15
Financial Reporting and Analysis	20	15-20	0
Corporate Finance	7	5-15	0
Equity Investments	10	15-25	5-15
Fixed Income	10	10-20	10-20
Derivatives	5	5-15	5-15
Alternative Investments	4	5-10	5-15
Portfolio Management and Wealth Planning	7	5-10	40-55
Total	100	100	100

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.

In response to the 2008 global financial crisis, the EAC expanded the scope of the practice analysis process to include input from university faculty, exam preparation providers, regulatory bodies, and policymakers. The EAC determined that establishing a partnership with these bodies will ensure that the GBIK and CBOK are relevant to investment management professionals and contribute to a well-functioning capital market. "Widening the funnel" into practice analysis has resulted in a more robust exchange of ideas in the panel sessions. Since 2008, these expert and employer panel sessions have taken place in 32 cities in the three CFA Institute geographic regions—the Americas; Europe, the Middle East, and Africa (EMEA); and Asia Pacific (APAC). The discussions at these panel sessions have identified revisions necessary to maintain the relevance of the GBIK and CBOK.

Candidate Body of Knowledge and Topic Area Weights

A major outcome of the practice analysis is an updated CBOK. The CBOK reflects 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 contained in the initial CFA Program curriculum, which focused primarily on (1) investment goals, investment timing, and portfolio balance; (2) institutional investing; (3) ethical issues; and (4) review of securities regulations. Since then, entire topic areas—such as fixed income, derivatives, alternative investments, and taxes and estate planning—have been added to keep pace with the changing profession. Because the CFA Program is global in scope, and because

laws and regulations differ among countries, the CBOK does not include specific country securities regulations—but instead includes, for example, a reading on the economics of financial market regulation. To prepare CFA charterholders for the global marketplace, the CBOK does reflect globally accepted reporting standards, such as the International Financial Reporting Standards (IFRS), as well as common tax and legal regimes that affect investment decision making, all of which are illustrated through examples in local jurisdictions.

In the CBOK, a total of 10 topics are grouped into four functional areas, as shown in Figure 1: ethical and professional standards, investment tools, asset valuation, and portfolio management and wealth planning. 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 asset valuation, and assets need to be valued and then analyzed in a risk-return portfolio context. The sequence also corresponds to the path that typical candidates might follow as they progress through their careers. Because integrity must be exercised throughout the investment process, CFA Institute emphasizes ethical and professional standards at each level. Although all CBOK topic areas relate directly to competence in investment management, they have differing degrees of significance for professional practice. Some areas may be more important or used more frequently than others in day-to-day responsibilities. Consequently, based on the results of the practice analysis, study weights are assigned to each topic area to indicate relative emphasis within the CBOK. In turn, these weights, shown in Table 1, guide the development of the curriculum and examinations.

Curriculum Development

The Curriculum Process

The CFA curriculum constitutes the study material that forms the basis for the examination questions. The curriculum topics are those CBOK elements identified in the practice analysis.

The curriculum's purpose is to prepare CFA candidates for the investment management profession and to facilitate their preparation for the exams. Each year, more than 250 investment professionals around the world participate in the annual curriculum review and development process.

The CFA Program is fundamentally different from typical university programs. In the program's early days, the curriculum consisted of textbooks, professional journal articles, commissioned readings, cases, and research analysts' reports.

In 1996, CFA Institute significantly improved the curriculum's effectiveness by adding learning outcome statements (LOS) at Level III. LOS were then incorporated at Levels I and II in the following year.

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 serves as the link among the CBOK, the curriculum, and the examination, helping candidates prepare for the exacting standards of the investment management profession.

Reading-specific LOS help candidates frame 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 the knowledge and skills candidates will be expected to demonstrate on the examinations and in their professional positions.

The COE and CFA exam writing team write examination questions within the bounds of the LOS, often integrating more than one LOS into a question. The COE views the LOS as a contract with the candidates. If candidates can do what the 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 candidates to achieve the appropriate mastery of the skills reflected in each of the LOS.

The following is an example of the Level II reading-specific LOS from "Multinational Operations," by Timothy S. Douplik and Elaine Henry, CFA (CFA Institute, 2013).

The candidate should be able to:

- a) distinguish among presentation (reporting) currency, functional currency, and local currency;
- b) describe foreign currency transaction exposure, including accounting for and disclosures about foreign currency transaction gains and losses;

- c) analyze how changes in exchange rates affect the translated sales of the subsidiary and parent company; and
- d) compare the current rate method and the temporal method, evaluate how each affects the parent company's balance sheet and income statement, and determine which method is appropriate in various scenarios.

Curriculum Innovations

In response to candidate demand, CFA Institute began phasing in a customized format for delivering 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 user-friendly and integrated curriculum that reduces candidate costs and facilitates examination preparation at no additional cost to candidates.

The latest curriculum delivery innovation was the release of the curriculum e-book in 2010. The e-book provides access to the curriculum in digital format.

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," and 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, and sometimes omit important concepts included in the CBOK. As a result of these disadvantages, the decision was made by CFA Institute to begin developing curriculum readings specifically for the CFA Program. Written by investment practitioners and leading academics, these readings balance conceptual rigor with the application perspective of financial analysts and portfolio managers. As of July 2015, almost 96% of the CFA Program curriculum consists of material commissioned by CFA Institute.

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 (then known as the Institute of Chartered Financial Analysts and later as the 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*, edited by John L. Maginn, CFA, and Donald L. Tuttle, CFA (1983). In 2006, the third edition of this seminal work was edited by Dennis W. McLeavey, CFA, and Jerald E. Pinto, CFA, in collaboration with the two original editors, and it remains the foundation of the portfolio management curriculum. Beginning in 2000, CFA Institute commissioned a series of books to provide curriculum content in corporate finance, fixed income, derivatives, quantitative methods, financial reporting and analysis, and equity

valuation. Since their introduction to the curriculum, many of these readings have been revised or replaced in response to advances in the investment management industry. In addition, the Levels I and II fixed-income readings (2013), Levels I and II economics curriculum (2012), Level I derivatives curriculum (2015, with updates of Level II planned for 2016), and Level III behavioral finance readings (2011) were commissioned to replace externally developed material.

The following principles have been established for CFA Program curriculum development. 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.

A distinguishing feature of the curriculum development at CFA Institute is the extensive review process that all products must undergo. Practicing investment management professionals review each reading or article to ensure that it is conceptually correct and relevant. Practitioners from all over the world participate in this process. Frank Fabozzi, CFA, a long-time contributor to the CFA Program curriculum, commented, "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."



CFA Program Partners are a group of high-profile, globally diverse academic institutions that incorporate the CBOK, including the CFA Institute Code of Ethics and Standards of Professional Conduct, into their degree programs and strategic objectives of CFA Institute. Status as a CFA Program Partner provides a signal to potential students, current students, and the marketplace that the university's curriculum is closely tied with professional practice and is well suited to preparing students to sit for one or more levels of the CFA exams. In 2012, CFA Institute began more broadly recognizing schools that incorporate the CBOK into their degree programs with the University Recognition Program. To find out more about CFA Institute university outreach initiatives, visit the CFA Institute website. (www.cfainstitute.org).

Candidate Products

Creating a custom curriculum allowed CFA Institute to move away from a series of textbooks and begin producing only those readings that it required candidates to study. The readings are custom-developed and tailored to the program; they are written from the perspective of the global investment industry, and they are focused on teaching candidates the body of knowledge without the inclusion of excessive, extraneous content not directly related to the program.

Candidates have consistently asked for more practice problems to practice by "doing," reinforce concepts, test retention of concepts, and see how concepts might be tested on the live exam. To address this request, we make sure the curriculum readings are rich with samples of practical application of the content. We also continually add to the number of end-of-reading questions that we produce. Moreover, we provide a large repository of practice problems through a question bank organized by topic—typically, 30 to 40 multiple-choice questions or one or two item sets, depending on topic weight. Topic-based assessments allow candidates to make effective use of the practice problems before having worked through all topics. Once candidates are in the final leg of their studies, they also have mock exams available. These exams cover all topics and are an attempt to replicate the exam-day experience in terms of difficulty, length, and topic weights.

Candidates in a self-study program must manage their study time. To help candidates internalize the time commitment and devise a plan for consistently studying, CFA Institute developed a web-based "study planner" that uses topic-area weights (adjusted for differences in curriculum weights) compared with the time available for study before exam day to suggest completion dates for each topic. The planner dynamically adjusts when candidates are running ahead of or behind schedule.

A mobile app offers access to the curriculum, the practice tests (question bank), and study planner. The app is included with exam registration at no additional charge.

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 exams were given in two separate sessions of two hours and 15 minutes. In 1964, all three levels of the examination were administered to 1,732 candidates in the United States and Canada. In 1968, each exam consisted of two sessions for a total of five hours and 15 minutes. The year 1981 marked the first time that the examinations totaled six hours in length. Since that time, CFA Institute has retained the current format of two separate three-hour sessions for each of the three exam levels.

Examination Content

A commitment to excellence in the development of the CFA examinations has been the program's hallmark. The COE and CFA exam writing team write the examinations with the assistance of CFA Institute staff. In 1963, the original COE consisted of four US academic experts and the president of the Montréal Stock Exchange. Today, more than 100 CFA charterholders from around the world serve on the COE and CFA exam writing team. The team consists of approximately 70% practitioners and 30% academics. Another large and globally diverse group of charterholders is involved in an extensive review process. CFA exam writing team members are recruited based on their expertise in different areas of investment practice and CFA curriculum topics. Prospective members are often identified based on other services supporting the CFA Program (e.g., standard setting, curriculum development, exam review, and grading).

CFA Institute follows the professional advice of expert psychometricians on all aspects of testing, including exam design, question structure, and exam performance evaluation. CFA Institute uses three question formats on its examinations. Selected response questions are simple multiple-choice at Level I and item sets at Levels II and III. Item sets are composed of six multiple-choice questions, and each set relates directly to case information provided in narrative and/or tabular form. All selected response questions have three answer choices. Constructed response (essay) questions appear only on the Level III exam. These formats support the primary focus on knowledge and comprehension at Level I, application and analysis at Level II, and synthesis and evaluation at Level III. Given the nature of the profession and the targeted learning outcomes, candidates are asked to analyze financial data and apply investment concepts at all three levels.

Each exam development cycle starts nearly a year in advance of the examinations. Each cycle begins with CFA exam writing team leaders and staff meeting to set the guidelines for the next examination. These guidelines are disseminated to CFA exam writing 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 LOS in the curriculum. Exam writers ensure candidates will be able to answer any question solely from curriculum content and practice problems. CFA exam writing team members are also encouraged to use assigned curriculum problems for ideas on question structure and content. The CFA exam writing team develops more questions than needed so that the COE can select the best portfolio of questions to appear on the examinations.

The CFA exam writing team revises examination questions continuously during a development cycle. Each new version benefits from review by the COE, CFA exam writing team members, expert and generalist volunteers, and staff reviewers. During the cycle, hundreds of hours of review time contribute to improving the examination questions.

CFA exam writing team members are also responsible for writing guideline answers, grading keys, and answer justifications, as well as documenting LOS coverage, reading references, and other supporting information.

Once the examination is in nearly final draft form, CFA Institute staff conduct 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 be inconsistent with practices in their regions. This information is used to revise the questions before the exams are printed.

Level I Examination

The Level I examination format is entirely multiple choice. Multiple-choice questions on the CFA examinations have a long history, dating back to 1968 when 25 multiple-choice questions first appeared on the Level I exam. By 1986, 50% 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. Sample multiple-choice questions are available on the CFA Institute website.

Levels II and III Item Set Questions

Item set questions were introduced in 2000; since 2005, the Level II examination consists entirely of item set questions. Level III consists of constructed response questions (morning session) and item set questions (afternoon session). Item sets are organized in groups of six questions that are related to a case or vignette that describes investment challenges facing individuals or institutions. Sample item set questions are available on the CFA Institute website.

Level III Constructed Response Questions

The constructed response (also termed essay) portions of the Level III examination (morning session) include questions with varying structures and point values. These questions typically have several parts related to a case study that describes one or a series of investment challenges. Each begins with a command word that corresponds to the command words contained in the curriculum LOS. The command words used on the examinations are also available at www.cfainstitute.org.

Constructed response examination questions have changed significantly throughout the CFA examination's history. In the early years, open-ended questions with large point values 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 have smaller point values in order to sample more of the assigned curriculum. Some questions are presented with an answer template to assist candidates in following the logic of the application being tested and to guide candidates regarding the appropriate length of answers.

On the early CFA examinations, candidates commonly had options concerning which questions they had to answer. Candidates could 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, or pension funds) as the subject of a question and also asked candidates to answer a question on the industry of their choice.

Today's CFA examinations cover all of the 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 CFA Program's strengths often cited by employers is that charterholders are knowledgeable even in investment topics in which they are not practicing.

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 clear indication of how much discussion is necessary.

Although the constructed response portion of the CFA examinations may appear unchanged since the program's founding days, today the candidates' responses require a higher degree of specificity. The current exams differ dramatically from those given in the program's early history, properly reflecting the evolution of both investment management practice and testing techniques used to evaluate that practice. Constructed response questions (and associated guideline answers) that have appeared on recent exams are available on the Candidate Resources section of the CFA Institute website. (www.cfainstitute.org).

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. Candidates are not expected to provide answers as complete and well-written as the published guideline answers to receive full credit.

Examination Administration

Once the COE and CFA exam writing team finish writing the CFA examinations, the examination books are produced following a secure process developed by CFA Institute and its vendors. After printing and before distribution, 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 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 to ensure that the administration runs professionally.

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 policies are enforced. Beginning in January 2011, candidates must register for the exam with a valid international travel passport. The information on the passport presented on exam day must match the registration records. This policy sets forth one global standard, in the form of a single document that is both internationally obtainable and recognizable, that allows CFA Institute to confirm candidates' identity and to ensure that all candidates receive identical treatment during the exam day admission process. Candidates are required to use only approved calculator models to ensure that no candidates can gain an unfair advantage by using calculators that have the ability to store text in memory. Unauthorized personal belongings are not permitted in the testing room. Security and testing policies will continue to evolve. You can review testing policies on the CFA Institute website (www.cfainstitute.org).

Matters involving alleged violations of the CFA Program rules and regulations are investigated by CFA Institute Professional Conduct. Disciplinary sanctions are imposed on candidates who are found to have violated these rules and regulations, such as writing past time, using an unauthorized calculator or scratch paper, and giving or receiving assistance during the examination. If a candidate is found to have violated the rules and regulations, the imposed sanction may range from a private reprimand and voiding of exam results to prohibition from further participation in the CFA Program.

Grading

Immediately upon receipt at CFA Institute, all exam materials are 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 auditing a random sample representing approximately 5% of candidates' answer sheets.

Another quality control during this 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 two answers are determined to be correct, both answers are credited.

In recent years, more than 600 charterholders from around the world have spent one or two weeks in Charlottesville, grading the constructed response portions of the Level III CFA examination.

CFA charterholders' involvement in grading the examinations is one of many checks and balances in the CFA Program designed to ensure that each candidate receives fair and consistent evaluation. Examination books identify candidates only by CFA Institute ID. Graders do not know the name or even the geographic origin of 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 teams that include graders with varying degrees of grading experience. Each team grades a specific question or question part(s), which brings a high level of specialization to the process. Each team is led by a captain, an assistant captain, and senior graders. These team leaders review all suggestions made by the 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 are trained in 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) receive detailed real-time statistical reports (including audit reports) to ensure consistent and accurate grading.

Grading coordinators, team captains, and CFA Institute staff meet daily to ensure consistent application of grading policies. Coordinators are CFA charterholder members with extensive experience in both exam development and grading.

After all examinations have been fully graded during the first week, approximately the middle 50% of the distribution of scores are graded again in their entirety—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.

As part of quality-control measures, all examinations are reviewed page by page to ensure every candidate answer is seen and evaluated appropriately. This error-checking process is repeated several times and continues after the grading process has been completed.

Minimum Passing Score

Standard Setting

Since 1996, CFA Institute has used the modified Angoff standard setting method to assist the Board of Governors in establishing the minimum passing score (MPS) on each CFA examination. The Angoff method is the best-known and most widely used standard-setting method among professional credentialing programs.

The Angoff method has been used as a criterion for establishing the MPS for the Level I examination since 1996. CFA Institute retains independent psychometricians to conduct standard-setting workshops for each exam.

Standard setting 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 exam, question by question, and makes an independent judgment on the expected performance of a just-competent candidate on each question.

Participants evaluate the entire examination a second time after reviewing "impact data" and overall actual candidate performance on the exam. In the second round, each participant again records his or her judgment regarding the expected performance of a just-competent candidate on each question. In this way, the participants consider both difficulty of the examination content and actual candidate performance. The workshops result in a report that presents a score range judged as the appropriate competence level in the subject matter from the perspective of demographically representative groups of charterholders. This report is submitted to the board for its consideration in setting the minimum passing score. The size of the group, its diversity, and its reliance on independent judgments contribute to the power of the standard-setting results.

Setting the Minimum Passing Score

CFA charterholder members on the CFA Institute Board of Governors who have no conflicts of interest set the MPS to be applied to each examination. The board convenes approximately six weeks following the exam to determine the Levels I and II MPS and again approximately seven weeks after the Level III exam to determine its MPS. Although pass rates may fluctuate, the board's objective is to require a consistent standard competency level across years.

The board assesses the examinations' difficulty and the candidates' demonstrated competency. Board members consider 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 within which to establish the MPS. The board's report, "Guiding Principles for Setting the CFA Examination Minimum Passing Score," is available on the CFA Institute website (www.cfainstitute.org).

CFA Institute staff and the board 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 generates results and conducts a variety of quality-control measures before results are released to candidates. This process ensures that the MPS is set in accordance with best practices in testing and that every candidate's exam is processed with appropriate due diligence.

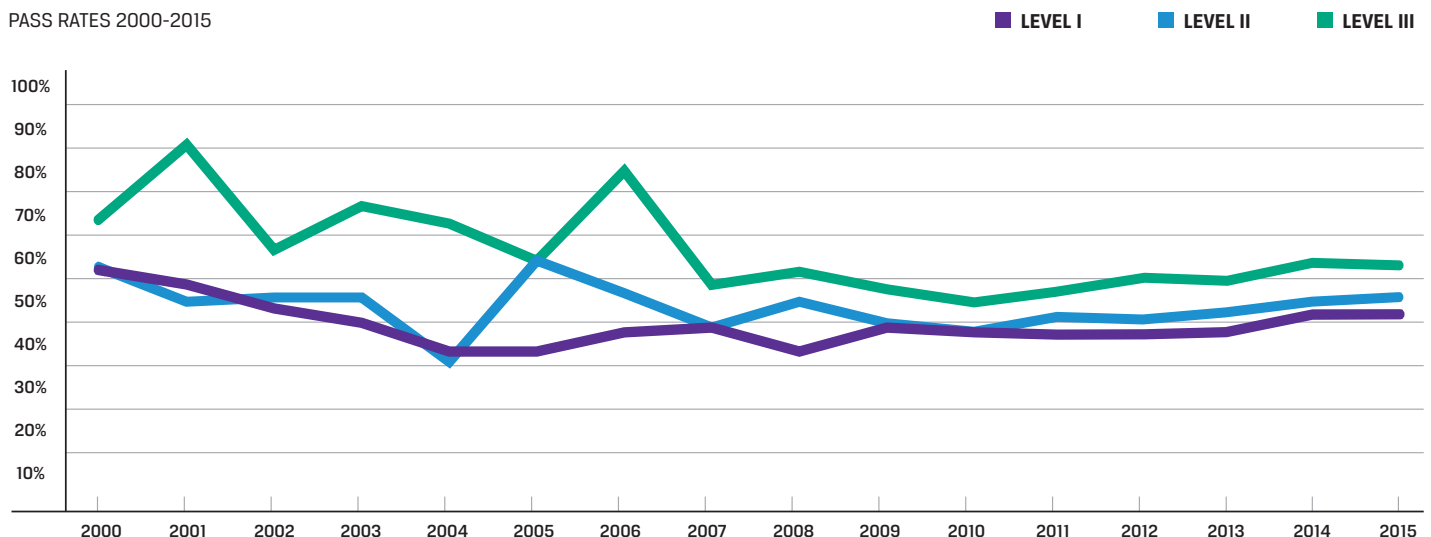
Pass rates, as shown in Figure 4, are calculated from candidates who actually sat for the examination. Approximately 25% of enrolled candidates who register do not sit for the examination (i.e., are no-shows) each year.

Falling pass rates reflect the expansion of the candidate pool and related shifts in academic and professional experience, the steady evolution of the CBOK supporting the investment management profession, and candidate preparation practices.

Candidates receive examination results in late July or early August (for the June examination) and late January (for the December examination). Candidate results are emailed and 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% of the points, between 50% and 70% of the points, or more than 70% of the points by topic.

Beginning with the June 2008 results, CFA Institute provided unsuccessful candidates with additional information to help them

FIGURE 4
PASS RATES 2000-2015



decide whether to continue to pursue the CFA designation. The total number of unsuccessful candidates at each level is divided into 10 groups or score bands so that candidates can see how they performed relative to all unsuccessful candidates. This has been cited as an example of credentialing industry best practice.

The highest score bands indicate proximity to the MPS. Not wanting to invite comparisons of performance within or across exam administrations, CFA Institute does not release the MPS or individual scores. The examination's primary objective, as with most professional credentialing and licensing programs, is to provide candidates the opportunity to demonstrate that they meet the standard established for competency in the profession.

Following the release of exam results, candidates who did not pass have the option to have their exams retabulated. In the exam score retabulation process, CFA Institute staff manually verifies that all parts of all questions answered in accordance with the instructions were graded and that the scores were recorded and added correctly.

Regulatory, Professional, and Educational Recognition

We hope that you agree the standards and rigor of the CFA Program have been maintained and even enhanced through the years. The stakes for the program are higher than ever because the CFA charter has become a de facto condition of employment in many investment management organizations.

Regulatory authorities also recognize the value of the CFA charter. Examples include authorities in Australia, Brazil, Canada, Germany, Hong Kong, the Netherlands, South Africa, the United Kingdom, and the United States. The Securities and Futures Commission of Hong Kong has recognized the passing of Level I of the CFA Program as providing an exemption from several modules of its licensed representative exams. The Financial Conduct Authority (FCA) in the United Kingdom has recognized Level I of the CFA Program in combination with the Investment Management Certificate (IMC), or Level III with the IMC Unit 1, as satisfying the retail distribution review (RDR) requirements. All of the state securities commissions in the United States that require an investment adviser licensing examination grant CFA charterholders a blanket exemption, and the CFA designation is one of only a few designations awarded such status.

In addition to regulatory recognition, educational and professional recognition also enhance the value of the charter. The UK National Academic Recognition Information Centre (UK NARIC) benchmarked the CFA Program and CFA charter as comparable with a QCF Master's Level 7 qualification within the UK Qualification and Credit Framework (QCF). UK NARIC is the UK national agency responsible for providing information, advice, and expert opinion on vocational, academic, and professional skills and qualifications. Universities and other qualification programs also recognize the CFA Program. For example, successful CFA Level II candidates applying for the Master in Advanced Finance program at the IE Business School in Spain can waive the requirement to submit GMAT or GRE scores.

The Professional Risk Manager program recognizes the CFA Program and, for charterholders, it waives the first two exams in its four-exam program. As with regulatory recognition, these educational and professional waivers are a direct member benefit.

Future of the CFA Program

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 has been recognized in such publications as *The Economist* and the *Financial Times*. 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 Program will continue to evolve to meet the changing needs of the capital markets. We are proud of the CFA Program and its history. Much of the Program's success reflects the participation of many charterholders who, along with the CFA Institute staff, specify the CBOK, develop the curriculum and examinations, grade the examinations, and recommend the passing standards for the examinations to the Board of Governors. CFA Institute welcomes all inquiries and suggestions regarding the CFA Program.

