

# Thinking Outside the (Batter's) Box

By Mark J. Larson, Representative to the CAS Candidate Liaison Committee

Imagine pricing in an auto market to compete with a company that has a greater surplus base and an expense ratio half of yours. Near impossible, right? What if the competitor only rates on one factor, driver age, and groups the ages together in wide ranges (say, drivers age 20-39 have the same factor). Now the task doesn't seem as formidable, right? This process of risk selection is not unlike the situation facing many general managers in Major League Baseball (MLB).

A general manager of an MLB team competes against thirty other managers in assembling a team of forty players to compete in the game of baseball. This can be done in a variety of ways, such as drafts or trades, but for the closest comparison to insurance, we will consider the free agent market. After earning enough major league service time, a player earns the right to become a "free agent" at the conclusion of his contract. At that time, the player allows all teams to bid for his services, perhaps for multiple years. Basically, the players shop around for the best rate, similar to how insurance consumers do.

For most general managers, the difficult part of this process is the amount of money they have to work with. Teams earn revenue from ticket sales and broadcast rights. A team like the New York Yankees not only has more potential ticket buyers and viewers than a team like the Kansas City Royals, but they also charge more per ticket and broadcast.

When it comes to the free agent market, the Yankees (and other large market teams) can afford to make large expenditures that most teams cannot. In insurance terms, they can offer rates that few others are able to afford for the desired risks (players) and are better capitalized to absorb the downside if these expenditures do not work out as planned. A player could become injured, or otherwise under-perform (perhaps woefully so) relative to expectations, just as a policyholder can suddenly and radically change behavior during the policy period. Having a larger surplus base will allow you to better absorb the downside, regardless of how inexact the risk selection. To compete with teams like the Yankees, small market teams need to be smarter in player selection—as trying to be luckier, on average, isn't sustainable.

So how do smaller market teams compete with teams like the Yankees? One method is analyzing player statistics better than the competition. They need to find players who maximize the return, which in some cases precludes them from participating in the pursuit of the biggest names. In insurance terms, they need to find gaps in the rating classes that the other teams use to more accurately assess the value of the players they target. Fortunately, the offensive performance of a baseball player can be forecast with minimal variance, as relatively few variables affect his performance at the plate. Steve Hirdt, executive

vice president of the Elias Sports Bureau, stated, "Offensive statistics in baseball are more legitimate for a player because they are more his own than [those of] someone in another sport, which are more team dependent....Baseball is more an individual battle between a pitcher and a batter. It makes individual stats more personal. And those statistics are less likely to fluctuate when you go to another team" (Kurkjian).

So did a general manager one day say, "We can't do what the Yankees do. Is there a weakness in player evaluation that we can exploit?" Actually, yes, one did. But this was not without a good deal of groundwork over several decades. Thirty years ago, Bill James, a night watchman at a bean factory and baseball enthusiast, theorized that "there's more in baseball than what you can see with the naked eye. And there's more in baseball statistics than is dreamt of in the philosophy of even the most seasoned major-league scout or manager" (Sullivan). Mr. James started publishing small statistical reports

which gained readership and popularity, eventually becoming a book called *The Bill James Baseball Abstract*. Individuals with sharp analytical minds began to take notice of Mr. James' analysis. One of these individuals was John Dewan who had been working for Aon Consulting in Chicago.

In *Contingencies*, May/June 2004, Dewan is quoted as saying, "What Bill James discovered is that you can go beyond the normal statistics...to get a better understanding of each player's efficiency, his contribution to winning. That's what actuaries do every day, of course. They use numbers to help them get a better understanding of what it takes to win—to establish premiums properly, to set aside money for the future, to make a profit, etc."

As analysis became more refined and more easily computed, general

managers started to take notice. In *Moneyball: The Art of Winning an Unfair Game*, author Michael Lewis chronicles the rise of Mr. James and his analytical techniques. *Moneyball* is also the story of Billy Beane, general manager of the Oakland Athletics. Mr. Beane put his own twist on Bill James' analysis to help him make decisions in regards to which players to sign. In finding a replacement for the productivity of his best player, Jason Giambi, who had just left via free agency (to the Yankees), Mr. Beane stated, "The important thing is not to recreate the individual. The important thing is to recreate the aggregate" (Lewis, 141). Mr. Beane set about to create a lineup that would, in aggregate, replicate the run production of the lineup that featured Mr. Giambi based on the implied production of the parts he would assemble. This portfolio approach, based upon simulation and interaction of the individual pieces, signaled in a more refined analytical approach to making a baseball team. Mr. Beane continued to field a competitive team even as larger market teams snatched up his best

# Code of Conduct Coming!

By Mark J. Larson, Representative to the Candidate Liaison Committee

Included in the March 2006 issue of *Future Fellows* was an article introducing a new CAS Code of Professional Ethics for Candidates. Seven rules are included in the code. I read, but did not memorize for fear of the following happening on exam day:

For a products liability action alleging strict liability in tort, list one of the three elements that the plaintiff must prove.


The plaintiff must prove that the said individual applied for an exam after January 1, 2008 which proves that the said individual has agreed to abide by the CAS Code of Professional Ethics for Candidates.

While it is always good to give your exam grader a chuckle, perhaps that wouldn't be the best way to go about doing it.

So what are the candidate's responsibilities? Each candidate should be familiar with the standards and abide by them. But they won't be

added to an exam syllabus anytime soon.

Everyone who registers for CAS Exams 3 and 5-9 for 2008 and beyond will be required to sign a statement on the exam application that they agree to abide by the terms and conditions of the code. The candidate who has agreed to abide by the terms of this code will be responsible to abide by the code until the Associate or Fellow designation is achieved. At that point, the much more detailed CAS Code of Professional Conduct will supersede the CAS Code of Professional Ethics for Candidates.

So take some time now that spring exams are over to familiarize yourself with the code and how it applies to your work and profession. Having memorized Rule 5 may not help in answering a future exam question, but knowledge of and adherence to the code are as necessary as the exams in someday achieving those four magic letters, PASS—I mean FCAS. 

## Vendor Links

The CAS provides vendor information on review seminars and study aids as a service to its candidates. The CAS takes no responsibility for the accuracy or quality of the seminars and study aids announced in *Future Fellows*.

Actex Publications/Mad River Books  
www.actexamdriver.com  
Exams 1, 2, 3, 4, 6

The Actuarial Bookstore  
www.actuarialbookstore.com  
Exams 1, 2, 3, 4, 6, 9

All 10, Inc.:  
www.all10.com  
Exams 6, 9

A.S.M.  
www.studymanuals.com  
Exams 1, 2, 3, 4

Austin Actuarial Seminars  
www.actuarialseminars.com  
Exams 3, 4

BPP Professional Education  
www.bpp.com  
Exams 1, 2, 4

CAMAR Actuarial Review Seminars  
sbm.temple.edu/actsci-seminars  
Exams 3, 4, 6, 9

Casualty Study Manuals  
www.csmanuals.com  
Exams 1, 2, 3, 4, 6, 9

G.V. Ramanathan Actuarial Exam Preparation Courses  
www.actuarialexamprep.us  
Exam 1

Illinois State University Actuarial Program  
www.math.ilstu.edu/actuary/prepcourses.html  
Exams 1, 2

Midwestern Actuarial Forum  
www.casact.org/affiliates/maf  
Exams 3, 9

New England Actuarial Seminars  
www.neas-seminars.com/misc  
Exams 2, 3, 4, 6, 9

Professor Sam Broverman  
www.sambroverman.com  
Exams 2, 4

Slide Rule Books  
www.sliderulebooks.com  
Exams 1, 2, 3, 4, 6, 9

## References

Lewis, Michael. *Moneyball: The Art of Winning an Unfair Game*. W. W. Norton & Company, Inc., 2004

Kurkjian, Tim. "There's Just a Passion About the Numbers in Baseball." ESPN.com, 27 March 2007. ESPN Network [http://sports.espn.go.com/mlb/preview07/columns/story?columnist=kurkjian\_tim&id=2813469&lpos=spotlight&lid=tab3pos2]

Sullivan, Steve. "Stat of the Art, The Actuarial Game of Baseball," *Contingencies*, May/June 2004, pages 34-40.

## Final CAS Transitional VEE Exams to Be Administered This Summer

By Timothy K. Pollis, FCAS, Candidate Liaison Committee

The deadline for registering for the final administration of the CAS transitional VEE (Validation by Educational Experience) exams is June 28, 2007. The transitional exams for all three VEE topics will take place on August 8, 2007.

The three VEE requirements—applied statistical methods, corporate finance, and economics—cover topics that were removed from the actuarial exams in 2005. It had been determined that these topics did not need to be tested at the level of other actuarial topics and would be best learned in a class or seminar. When the CAS Board of Directors approved the VEE proposal, the Board members wanted to make certain that non-university options would develop. They voted to offer the transitional VEE exams temporarily to ensure that this happened. Ultimately the Board decided to offer these transitional exams for three years with the final administration in August 2007.

The ordinary ways of satisfying the VEE requirements are successful completion of the following:

1. College Course(s): Complete one or more courses offered by a college or university and approved by the CAS, CIA, and SOA.

## Exam Changes

from cover

4. Exams are now being designed and constructed with a target pass mark of 70% as suggested by the CAS Board of Directors. The Board further suggested that 40% or more of candidates should achieve 70% on these same exams.


The first three relate directly to changes that candidates have noted in types of questions that appear on more recent exams. The fourth results in the upward drift in passing scores. All four will continue to cause the examination system to evolve for many years to come. Some exams have made more progress towards these goals than others. Exam 9 is perhaps the furthest evolved at the present time.

For candidates preparing for future exams, it may be of help to consider the following preparation and exam taking tips:

1. Structure your study around the learning objectives and knowledge statements, especially when deciding what to memorize and practice. If memorizing a list, a formula, or an algorithm is necessary to satisfy a particular objective, then give it a higher priority than a memory item that is tangential to a learning objective. If a learning objective asks you to "Calculate..." then you should practice setting up the relevant equations with various data sets.
2. When using prior exams for practice, examine each question and ask yourself whether that question satisfies a current learning objective. If it does not, you should not expect to see a similar question on future exams.
3. Be cautious of spending too much time practicing with questions phrased as "According to..." While Exam 5 still asks these types of questions to differentiate between multiple papers with similar but not identical methods, most of the exams have virtually eliminated these questions in favor of more generalized questions that do not specify the author and paper.


Candidates must receive a grade of B- or better in each course. If the institution does not use letter grading, an appropriate translation will be determined.

2. Standardized Examinations: Achieve a pre-set score on a standardized examination as determined by the CAS, CIA, and SOA. Specified score minimums on the Advanced Placement (AP) and College Level Examination Program (CLEP) tests for micro and macroeconomics will be accepted as VEE credit for economics. The VEE Administration Committee (VEEAC) will determine which other examinations qualify and the score required for credit.
3. Other Educational Experiences: Complete other educational experiences as approved by the CAS, CIA, and SOA. Approved educational experiences are posted online.

Details on ways to fulfill the VEE requirements are available in the "Admissions/Exams" section of the CAS Web Site (see http://www.casact.com/admissions/index.cfm?fa=veeInfo). 

4. Cover the entire syllabus. As pass marks rise towards 70%, it is no longer possible to omit significant portions of the syllabus and hope to pass.
5. Budget your exam-taking time efficiently so that you attempt all of the questions on which you think you can receive points. Answering 60% of the questions perfectly is no longer sufficient to pass the exam.
6. Watch the CAS Web Site for exam related announcements, reports, or recommendations from the CAS Board of Directors. These documents will give you insight into the future direction of the examination process.

For those who would like to read further about the historical studies, task forces, and Board of Directors recommendations that are continuing to drive the changes above, here are links to the relevant items on the CAS Web Site:

- 2001 Report on Exam Activities: http://www.casact.org/about/president/index.cfm?fa=pgletter060101
- Chauncey Report 2002: http://www.casact.org/admissions/reports/2002audit.pdf (Note, the Chauncey Group is now part of Thomson Prometric.)
- 2003 Report by Tom Myers (Follow up to Chauncey Group Report): http://www.casact.org/admissions/futell/sept03/admission.htm
- Board Preferences on pass marks (see page 3): http://www.casact.org/about/governance/bod/090904min.pdf
- Exam Strategy: http://www.casact.org/admissions/futell/dec05/strategy.htm. 


*This article was posted on the CAS Web Site on March 14, 2007.*

Variance Premiere Issue Has Arrived

By Caitlin S. Jennings, CAS Communications Coordinator

After months of preparation, the first issue of *Variance: Advancing the Science of Risk* is finally here. The new peer-reviewed journal will disseminate work of interest to casualty actuaries and other risk professionals worldwide. Its articles will focus on original practical and theoretical research in non-life actuarial science and related areas in the science of risk.

The *Variance* Web Site, [www.VarianceJournal.org](http://www.VarianceJournal.org), which will launch this spring, will have all of the details on the journal. Non-CAS members who wish to receive a complimentary copy of the first issue are welcome to submit their request via the *Variance* Web Site. CAS members, Academic Correspondents, and Subscribers will automatically receive the journal. Audio recordings of paper presentations will be among the features added to the Web Site in the coming months.

*Variance*, which will be published semi-annually, will put practical and relevant research in the hands of practitioners more quickly than ever before. The *Proceedings of the Casualty Actuarial Society*, which was published annually, had previously served as the CAS outlet for peer-reviewed research papers. The CAS will continue to publish the *Proceedings*, but without peer-reviewed research papers. Instead, the contents of the former *Yearbook* (excluding the Membership Directory) will be included in the new soft-cover version of the *Proceedings*. 



Got Feedback?

If you have a concern about the admissions process, please send your comments or questions to the CAS Candidate Liaison Committee (CLC). The CLC can present your concerns to the appropriate CAS committee. A feedback link is included at the top right corner of the “Admissions/Exams” page of the CAS Web Site (<http://www.casact.org/admissions/>).

Resources & Reminders

The “Admissions/Exams” section of the CAS Web Site includes:

- All updates to the *Syllabus of Basic Education*
- “Notice of Examinations”
- “Verify Candidate Exam Status” to verify that joint exams and VEE credits are properly recorded
- CAS Regional Affiliates have their own section on the CAS Web Site
- Feedback button to the Candidate Liaison Committee

If you have not received a confirmation of your registration for Exams 3, and 5-9 two weeks prior to the registration deadline, please contact the CAS Office.

NEW

Please note the new refund policy. Refunds must be requested prior to exam dates. Please check the *Syllabus* for specific refund deadlines.

Remember Your Candidate Number!

Future FELLOWS



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Discussing Changes in the CAS Examinations

By Arlie J. Proctor, FCAS, MAAA, Examination Committee Chairperson

In 2001, the CAS set in motion a number of initiatives to change the manner in which our educational system operates. Many of these have directly affected the construction, administration, and grading of exams, particularly Exams 5 through 9. The changes have left many candidates and members alike feeling uncomfortable about the process itself and the manner in which candidates should prepare for future exams. As actuaries, we like to look first to the past as a predictor of future events. When the past fails to accurately predict the results we see, we are trained to ask the question, “What changed and how will that affect the future?”

The Examination Committee currently fields a number of questions of exactly that nature. Among the more common are:

- Why are the pass marks creeping up over time? Doesn’t this indicate that candidates are better prepared and that more should pass?
- The questions on this exam were very different from prior years’ examinations. What caused the change and will the difference persist in future exam sessions?

While answers to those questions, or at least clues, are available in the vast storehouse of information contained on the CAS Web Site, it is difficult, particularly for newer candidates, to find and interpret them. In order to predict what future examinations will look like and how to pre-

pare for them, it is important to understand four basic changes to the exam system upon which the Examination Committee has been working since 2002.


1. All question writers, even seasoned members, are required to attend “Item Writer Training” offered by Thomson Prometric, a professional testing advisor and consultant. This all-day program teaches members how to write questions that are unambiguous and that differentiate between prepared and unprepared candidates. Participants construct questions and subject them to peer review and discussion.
2. For most exams, question writers are now assigned to write questions for specific learning objectives without reference to particular syllabus readings. In the past, question writers were assigned to write questions for specific articles. (Exam 5 still assigns specific articles to question writers due to the nature of the syllabus readings.)
3. The use of “List” or rote memory questions has been discouraged except where there is no other means of satisfying a learning objective. Open ended questions with more than one possible answer and which cover multiple learning objectives and/or multiple readings are encouraged.

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Board to Revise White Paper

By Jonathan T. Marshall, Candidate Representative to the Candidate Liaison Committee

After considering feedback from stakeholders, the CAS Board of Directors will revise the White Paper on CAS Education Strategy. The Board has convened a sub-committee to present a new proposal at its meeting in June. The original White Paper proposed multiple tracks to Fellowship, new educational materials, and broader use of non-exam evaluation methods. About 500 CAS members and

candidates submitted feedback through an online survey earlier this year. Board members discussed this feedback at their March 15-16 meeting and concluded that revisions to the proposed education strategy are needed. An update on the status of the White Paper will be communicated in late June. Check the “Admissions/Exams” section of the CAS Web Site for updates. 

Candidate Liaison Committee Mission

The Candidate Liaison Committee communicates with CAS candidates, collectively and individually, who are taking CAS examinations. The committee informs candidates as to appropriate courses of action available to them. Through periodic communication, this committee informs candidates of results of examination administrations, actions taken on complaints received regarding examination questions, and reasons for syllabus and examination changes being implemented. Communication encompasses existing policies and procedures as well as changes being considered. The committee should advise the CAS and its committees of the interests of the candidates regarding matters that come before the CAS and its committees. Candidates may contact the Candidate Liaison Committee at the CAS Office address.



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