

**MARCH 14, 1989 LETTER AND WHITE PAPER
ON FLEXIBLE EXAMINATION SYSTEM**

*Kevin Ryan and
Education Policy Committee*



CASUALTY ACTUARIAL SOCIETY

Kevin M. Ryan
President

One Penn Plaza
New York, NY 10119
(212) 560-1010

March 14, 1989

TO: All Members of the Casualty Actuarial Society

RE: Flexible Examination System

The purpose of this letter is to present to you a very important educational issue within the Casualty Actuarial Society and to request your feedback on that issue.

As most of you are aware, the Society of Actuaries has implemented a Flexible Examination System which involves dividing examinations into smaller pieces as well as constructing a system under which some examinations are required and others are elective.

The Education Policy Committee of the CAS was subsequently charged with reviewing this concept and determining whether adoption of a similar examination system would be beneficial to the CAS. After considerable research and deliberation the Committee presented its report to the CAS Board of Directors in the Fall of 1988. The Board of Directors embraced the recommendation in that report by unanimously passing the following motion:

That the CAS Board endorses the concept of smaller examination units for Parts 4 through 10. It directs the Vice President-Membership to develop a detailed implementation plan and schedule which addresses, at a minimum, all of the additional considerations for implementation itemized in the Education Policy Committee's report plus seeking input from students about this concept.

The Education Policy Committee's White Paper is attached for your review. Inasmuch as this is an extremely important issue for the CAS, we would like to get maximum input from our membership. In order for your input and evaluation to be as informed as possible, I would strongly commend the Education Policy Committee's White Paper to you for a careful reading. Your input is greatly desired and will definitely be utilized as we proceed.

All Members of the Casualty Actuarial Society
March 14, 1989
Page 2

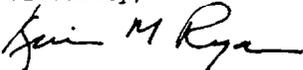
It should be noted that the Board's action requires that the Vice President-Membership present a detailed implementation plan and schedule to the Board for its approval before going forward with any changes to our current system. It further requires that this implementation plan must appropriately address all of the considerations itemized in the Education Policy Committee's report. These appear in the final two pages of the report. The issue that has attracted the most attention thus far is the one of travel time. Please note that travel time is one of the issues highlighted by the Education Policy Committee's report. It is not anyone's intention to implement or revise the examination system in a way that would significantly increase travel time to Fellowship.

The Education Policy Committee has established a Task Force to undertake the additional work necessary to develop an appropriate partitioned examination system plan. Part of this evaluation involves obtaining membership input, and it is felt that a membership mailing represents the most thorough process. As the Board and the Education Policy Committee continue their evaluation, your comments on the subject of exam partitioning will be most welcome. We have set a cut-off date of June 1 for initial comments to be received. Comments should be addressed to:

Partitioned Examination Task Force
c/o Casualty Actuarial Society
One Penn Plaza
250 West 34 Street
New York, NY 10119

Please read the White Paper thoroughly and give this matter your attention. We would encourage discussions with other actuaries and students within your company, but we would appreciate it if you would provide us with your personal comments rather than trying to represent other individuals. As part of our evaluation process, we expect to solicit opinions and comments from all of our students in a variety of ways, including a survey. We very much hope to receive your comments in writing by June 1. On behalf of the Board of Directors and the entire CAS, I want to thank you for your attention to this very important matter.

Sincerely,



Kevin M. Ryan, FCAS, MAAA

KMR:mrh
Attachment

CASUALTY ACTUARIAL SOCIETY
FLEXIBLE EDUCATION SYSTEM (FES)
"WHITE PAPER"

This "white paper" addresses the matter of whether or not the CAS should adopt the FES concept throughout its entire examination process. Currently, the FES concept has been accepted for use on parts 1 through 3 and is under consideration for use on part 4.

SCOPE

For purposes of this assignment, the Education Policy Committee (committee) has defined some limits for the scope of our considerations. In general, we limited ourselves to answering the question, "Is FES a better educational process?" We identified seven areas to consider; these criteria formed the totality of our considerations. Two items that we specifically excluded were issues of unification with other actuarial bodies and issues surrounding the Canadian guiding principles (except it was noted that FES was compatible with adding Canadian content to the syllabus).

PROCESS

The concept of a Flexible Education System (FES) involves the following two important features:

1. the exams are offered in smaller units; and

2. the syllabus is re-organized to reflect core material and elective material, with requirements for each.

In developing this "white paper", the committee put a major emphasis on detailed documentation of its decision process. We were faced with a complex decision problem, where the final outcome is not solely dictated by the facts but, perhaps more importantly, by the decision makers' weighting of importance of the various decision criteria and supporting facts in favor of or against FES. We recognized that different conclusions can be reached from the same set of facts, and thus they are available to all recipients of this paper to consider in their own fashion. The recommendation of the committee is based on its weighting of importance of the criteria and supporting facts, and differences of opinion will most likely be addressed in terms of the importance weightings.

The committee agreed that there are weaknesses in the current education and examination process. Through discussion, the committee found that FES would address and help correct some of these; however, this alone is not adequate reason to adopt FES. The committee's view is that other solutions to current problems can be found if FES is not compelling as a better educational system. The reader is reminded here that this paper is not intended to serve as the basis for improving the E & E process, nor is it intended to address directly what changes may be needed in that process.

Misunderstandings often arise when imagining an FES environment. A typical reaction is that the examination process will be harder and it will take longer to pass all the exams. Further insight will reveal that many of these concerns can be handled through controllable results, and the CAS should consider itself resourceful enough to obtain the desired outcome. For example, there is no need to assume that passing percentages will be the same under FES. Difficulty of passing exams and total travel time through the exams are clearly influenced by different pass rates.

DECISION CRITERIA

The committee identified seven decision criteria, the most important being the achievement of the CAS educational objectives, the quality of education and the type of FCAS graduate. The remaining four criteria were split into two categories, very important and somewhat important. The table below summarizes the criteria rankings.

FES DECISION CRITERIA

<u>Most Important</u>	<u>Very Important</u>	<u>Somewhat Important</u>
● Educational Objectives	● Travel Time to FCAS	● Positioning CAS vs. Other Career Options
● Quality of Education	● Administration of Exams	● Employer's Viewpoint
● Type of FCAS Graduate		

The first appendix to this "white paper" includes a page of pros and cons of FES for each of the seven criteria. In some cases an item appears under one heading and, with a "twist", also appears under the opposite heading. These are simply a matter of different perspectives on each issue where the final verdict is still unknown.

EVALUATION OF CRITERIA

I. Educational Objective

The educational objective of the CAS related to this topic is to provide and foster a program of actuarial education leading to fellowship in the CAS including the following:

1. defining the basic areas of knowledge and skills necessary to obtain the competence to practice in the various actuarial specialties;
2. defining standards of educational achievement required for membership in the CAS; and
3. providing a means of measuring educational achievement.

It was also understood by the committee that an educational objective of the CAS was to produce well rounded individuals with a generalist orientation. This is clearly implied by the Syllabus Goals and Objectives currently set forth in the CAS Yearbook. This objective led us to rule out any FES system with specialty tracks.

From the various options which exist when considering an FES system, the committee selected three as the most viable for further consideration. These were an FES with electives (but no specialty tracks), an FES without electives, and no change (no more flexing beyond part 4).

The committee considered each of the three options further. The FES system with electives was not considered as a viable alternative at this time. There was a very strong feeling within the committee that this option would detract from the commonality of education and the broad based, well rounded characteristics of members of the society produced under the current education and examination structure, thus jeopardizing the warrant implied currently by the FCAS designation.

The committee then focused its attention on the two remaining options, namely, an FES system with no electives, and no change (no flexing beyond Part 4). It is recognized that an FES system with no electives is equivalent to partitioning or subdividing the exams as we currently know them.

It is the opinion of the committee that each of the components of the principal educational objective enumerated above is enhanced, perhaps significantly, by the adoption of a well-structured FES system.

First, a more modular approach toward the syllabus and examination structure improves focus and provides clearer and more adequate definition of the basic areas of knowledge and skills necessary to obtain the competence to practice in the various actuarial specialties.

Second, smaller examination units enable the CAS to better define the standards of educational achievement required for membership.

Third, more focused examinations improve the means of measuring educational achievement, in terms of both the depth and breadth of that achievement.

The other criteria used in our evaluation are not associated with codified standards or objectives but are involved primarily with qualitative issues. It is clear from the Appendix that there are several pros and cons under each criteria used by the Committee in its evaluation. None of these individually presented an overwhelming basis for determining whether or not to change the current system. The disadvantages associated with each of these additional criteria would need to be viewed as the key issues to be addressed by any organization considering FES. For reasons cited earlier, disadvantages pertaining to specialty tracks or electives can be excluded from further consideration at this time. Appendix 2 to this "white paper" includes for each criteria a page of pros and cons excluding those relating to the use of electives or specialty tracks.

II. Quality of Education

The committee agreed that the quality of education would likely be enhanced. The use of smaller examination units facilitates the focusing of exams on concepts, the assurance of minimum competence standards, and greater ease in making syllabus changes. It also provides students with more flexibility in selecting their approach toward the exams. It is possible that some currently marginal candidates will be able to pass under FES because of the smaller examination units. It is not clear if this represents a change in the quality of education, however an increase in membership could occur.

III. Type of FCAS Graduate

The type of FCAS graduate under a system of partitioned examinations was a subject of considerable deliberation by the committee. We felt the learned quality of an FCAS may improve due to more focused examination units and assurance of minimum standards in more areas. Alternatively there is some concern that the FCAS graduate may have reduced skills or discipline in the areas of time management, memory capacity, synthesis and ability to isolate important material.

IV. Travel Time

The travel time to Fellowship was another criteria on which the committee spent considerable time. The committee agreed strongly that results under a system of partitioned examinations must be

carefully controlled so as not to materially affect travel time. Since examination units would be smaller, the combination of new units equivalent to one current examination could be more difficult due to the "effective" minimum standards achieved under the new structure. Thus, candidates taking one or two new units may be perceived to have an advantage compared to the candidate taking the equivalent of a full current examination. Also, there was some concern that more candidates might stop at ACAS due to a perceived longer travel time to FCAS. Alternatively, travel time would be reduced for some candidates since the selection of examination units, and their order, is flexible and can be employed by candidates to optimize travel time.

V. Administration of Examinations

The committee agreed that administration of examinations would be more complicated under a structure of partitioned examinations than under the current system. While it is not clear whether this would require additional staffing of either the syllabus or examination committees, record keeping would become more complex, and the costs for committees and exam administration would increase. The use of partitioned examinations facilitates joint sponsorship where desirable, and the attendant sharing of volunteer efforts for syllabus and examination work. The committee agreed that the use of partitioned examinations makes it easier to deal with CIA objectives. Syllabus and examination committee volunteers may also be easier to recruit since more specialization would be permitted. Finally, syllabus transitions should be easier.

VI. Career Positioning

The effect on positioning the CAS versus other career options is a difficult and mostly subjective issue. It is conceivable that the current system offers some recruiting advantage since a system of partitioned exams could appear to have "more" exams and could be more difficult to explain. Alternatively, the partitioned examination process could be perceived as less stressful than under the current system, which would make it attractive (relative to the current system) versus alternative educational programs such as MBA or the Society of Actuaries.

VII. Employer's Viewpoint

The committee recognized that the employers' viewpoint cannot be overlooked. Under a system of partitioned examinations employers may be faced with some additional costs to develop an FCAS, and it will be more difficult to rank or equate students. However, employers can benefit because students can select examination units more relevant to current work and exercise greater flexibility in selecting the study "load". Also, employers may see better educated actuaries due to the improved focus of partitioned examinations.

RECOMMENDATION

As a result of our deliberations, the Education Policy Committee recommends that the CAS adopt a partitioned examination system,

with no electives, for all of its examinations. This recommendation is principally founded on the basis of educational merit, including enhancements in the ability of the CAS to achieve educational objectives and in the quality of education, without affecting materially the type of FCAS graduate produced. The foundation for our recommendation also includes consideration of the additional criteria as discussed above, and where potential disadvantages exist, we believe they can be dealt with through a carefully controlled implementation process, as discussed below.

ADDITIONAL CONSIDERATIONS FOR IMPLEMENTATION

The implementation of a partitioned examination system, including appropriate changes to the syllabus and the examination structure and process, must proceed in a controlled manner. Any potential disadvantages associated with such a system must either be eliminated or minimized in their effect. In particular, the implementation of such a system and all communications regarding that implementation must consider the sensitivities of the existing membership, existing examination candidates and future members of the profession. We would be remiss if we did not emphasize additional considerations identified by the committee in the course of our deliberations.

1. There should be minimal effect due to any new system on candidates succeeding under the current system.

2. Travel time should be affected as little as possible.
3. Effective implementation requires that the syllabus and examination committees be well informed as to the deliberations leading up to the adoption of the new system. Representatives from these committees should be involved directly throughout the implementation process.
4. Employers must be well informed.
5. Performance standards must be established, monitored and evaluated very carefully to assure fair and equitable treatment of all candidates.
6. Consideration must be given to the mode of implementation, i.e., a staged implementation versus all examinations at once.

It is therefore further recommended that implementation plans be codified, with the intended effect in all such areas clearly described and subject to an approval process that includes the Board.

DISCUSSION NOTE
ON THE PROS AND CONS
FULL FES WITH ELECTIVES AND SPECIALTY TRACKS

I. ACHIEVING CAS EDUCATION OBJECTIVES

<u>Pros</u>	<u>Cons</u>
<ol style="list-style-type: none"> 1. That an FCAS designation validates knowledge of certain subjects is improved because minimum level of competence is provided in more subjects with FES. 2. A more modular approach provides a clearer definition of the basic areas of knowledge and skills needed to be an FCAS. 3. Additional areas of basic actuarial training can be included in syllabus via electives under FES. 	<ol style="list-style-type: none"> 1. Specialty tracks inconsistent with CAS objectives of a common, generalists education. 2. The depth of subject knowledge available via FES is not part of CAS objectives. 3. Reduces homogeneity of FCAS graduates.

II. QUALITY OF EDUCATION

<u>Pros</u>	<u>Cons</u>
1. Ability to offer more topics via elective approach.	1. Electives lead to gaps in general knowledge of some members.
2. Testing smaller units allows for better mastery of materials and increases assurance of minimum standards for competence.	2. More marginal performers will be able to pass with this system because taking in smaller pieces.
3. Easier to make syllabus changes and provide up-to-date curriculum.	3. May be more difficult to assure real and perceived fairness and equity to all students because of the different options.
4. Flexibility allows students to select courses and pace education more individually to fit their needs, including job assignments.	4. Potential for loss of synthesis type question via FES.
5. The educational focus of exams on concepts improved with FES.	
6. Alternative educational approaches, possibly superior, exist with a new system.	

III. TYPE OF FCAS GRADUATE

<u>Pros</u>	<u>Cons</u>
<ol style="list-style-type: none"> 1. Curriculum will have more capacity to address perspectives other than an insurance company view, i.e., consultants, risk managers. 2. Retained knowledge and learned quality may be of a higher nature due to broader application of minimum standards to each tested subject. 	<ol style="list-style-type: none"> 1. FES reduces required disciplines or skills in several areas: <ul style="list-style-type: none"> - time management skills (because volume of exam material per session is reduced); - memory requirements reduced; - testing for synthesis of material becomes more limited; - ability to glean important material from non-important material de-emphasized. 2. There is some loss of homogeneity of FCAS graduates with electives.

IV. TRAVEL TIMEPros

1. Travel time could be reduced for some.
2. More examination dates could be offered to benefit travel time:
 - students set their own pace, select their own exam order;
 - elective process improves chance of passing on selected topics of interest;

Cons

1. Travel time to ACAS, FCAS might increase:
 - exams could become tougher when in smaller parts;
 - the appearance of 20-30 exams vs. the current 10 may discourage students (and make recruiting more difficult);
 - taking 3 parts puts a student at a disadvantage to others concentrating on fewer.
2. More people may stop at ACAS due to many additional exams and travel time.

V. **ADMINISTRATION**

- | <u>Pros</u> | <u>Cons</u> |
|--|--|
| 1. Use of other organizations exams could reduce staffing needs. | 1. May cause additional staffing needs that are a big problem to fill. |
| 2. Facilitates more joint sponsorship of exams with SOA. | 2. Record keeping more complex and costly. |
| 3. FES prerequisite to some parts of FEM. | 3. Costs for committees and running exams will increase. |
| 4. FES makes it easier to deal with CIA objectives. | |
| 5. Additional part-time volunteers in area of specialties could be easier to obtain. | |
| 6. Transition programs due to syllabus changes easier to do with FES. | |

VI. POSITIONING CAS VS. OTHER CAREER OPTIONS

<u>Pros</u>	<u>Cons</u>
1. The exam process is less stressful with FES, particularly with some FEM approaches. For instance, the CAS would improve its attractiveness versus the SOA and MBA.	1. Retaining fewer exams than SOA might be a recruiting advantage for the CAS. 2. FES is a more complex educational system to explain to potential entrants.

VII. EMPLOYERS' VIEWPOINT

<u>Pros</u>	<u>Cons</u>
<ol style="list-style-type: none"> 1. Students can select topics more relevant to current work. 2. Course load can be varied to fit better with current workload. 3. A better educated actuary may be achieved with FES. 	<ol style="list-style-type: none"> 1. More cost to employers to develop an FCAS: <ul style="list-style-type: none"> - probable increase in needed study time; - any increase in travel time would increase cost. 2. Reduces homogeneity of FCAS graduates. 3. Career pathing more complex, with difficulty of clear ranking of students.

DISCUSSION NOTE
ON THE PROS AND CONS
FES WITHOUT ELECTIVES AND SPECIALTY TRACKS

I. ACHIEVING CAS EDUCATION OBJECTIVES

Pros

1. That an FCAS designation validates knowledge of certain subjects is improved because minimum level of competence is proved in more subjects with FES.
2. A more modular approach provides a clearer definition of the basic areas of knowledge and skills needed to be an FCAS.

Cons

1. The depth of subject knowledge available via FES is not part of CAS objectives.

II. QUALITY OF EDUCATION

<u>Pros</u>	<u>Cons</u>
1. Testing smaller units allows for better mastery of materials and increases assurance of minimum standards for competence.	1. More marginal performers will be able to pass with this system because taking in smaller pieces.
2. Easier to make syllabus changes and provide up-to-date curriculum.	2. Potential for loss of synthesis type question via FES.
3. Flexibility allows students to select courses and pace education more individually to fit their needs, including job assignments.	
4. The educational focus of exams onto concepts improved with FES.	
5. Alternative educational approaches, possibly superior, exist with a new system.	

III. TYPE OF FCAS GRADUATE

Pros

1. Retained knowledge and learned quality may be of a higher nature due to broader application of minimum standards to each tested subject.

Cons

1. FES reduces required disciplines or skills in several areas:
 - time management skills (because volume of exam material per session is reduced);
 - memory requirements reduced;
 - testing for synthesis of material becomes more limited;
 - ability to glean important material from non-important material de-emphasized.

IV. TRAVEL TIME

Pros

1. Travel time could be reduced for some.
2. More examination dates could be offered to benefit travel time:
 - students set their own pace, select their own exam order;

Cons

1. Travel time to ACAS, FCAS might increase:
 - exams could become tougher when in smaller parts;
 - the appearance of 20-30 exams vs. the current 10 may discourage students (and make recruiting more difficult);
 - taking 3 parts puts a student at a disadvantage to others concentrating on fewer.
2. More people may stop at ACAS due to many additional exams and travel time.

V. ADMINISTRATION

<u>Pros</u>	<u>Cons</u>
1. Use of other organizations exams could reduce staffing needs.	1. May cause additional staffing needs that are a big problem to fill.
2. Facilitates more joint sponsorship of exams with SOA.	2. Record keeping more complex and costly.
3. FES prerequisite to some parts of FEM.	3. Costs for committees and running exams will increase.
4. FES makes it easier to deal with CIA objectives.	
5. Additional part-time volunteers in area of specialties could be easier to obtain.	
6. Transition programs due to syllabus changes easier to do with FES.	

VI. POSITIONING CAS VS. OTHER CAREER OPTIONS

<u>Pros</u>	<u>Cons</u>
1. The exam process is less stressful with FES, particularly with some FEM approaches. For instance, the CAS would improve its attractiveness versus the SOA and MBA.	1. Retaining fewer exams than SOA might be a recruiting advantage for the CAS. 2. FES is a more complex educational system to explain to potential entrants.

VII. EMPLOYERS' VIEWPOINT

<u>Pros</u>	<u>Cons</u>
1. Students can select topics more relevant to current work.	1. More cost to employers to develop an FCAS: <ul style="list-style-type: none">- probable increase in needed study time;- any increase in travel time would increase cost.
2. Course load can be varied to fit better with current workload.	
3. A better educated actuary may be achieved with FES.	2. Career pathing more complex, with difficulty of clear ranking of students.

