The Actuary
The Newsletter of the Society of Actuaries
VOLUME 7, No. 8 OCTOBER, 1973

WOMEN'S LIBERATION AND THE FEMALE MORTALITY RATE

by Barnet N. Berin

In this country, and in many other parts of the world — the female mortality rate is lower than the male mortality rate. Most people who read *The Actuary* know this, but the statement is incomplete and the ramifications of a more complete statement are interesting.

Once the problems associated with childbirth were largely conquered, which has happened in this century, it became clear that the female mortality rate was lower than the male mortality rate *at all ages*. Further, it has been noted that the mortality rate from conception to delivery is lower for female fetuses than for male fetuses. Put the two together and we have a startling situation. Almost from the moment the sperm unites successfully with the egg, the female has a better chance of survival throughout the human life span.

In the days of pre-history, women certainly must have died during first or second child-briths—with few exceptions—so that the twentieth century breakthrough is in the nature of an evolutionary development. The hitherto more favorable male mortality may well account for male dominance, more so than any other factor.

1970 U.S. Census, General Population Characteristics, shows the ratio of males to females by ages. At all ages the ratio is 94.8%. In 1960, the corresponding ratio was 97.1%. The initial excess of male births produces a ratio of 104.1% under 1 year of age which holds at about this level to age 15 and then decreases to 101.1% at age 18. At age 19 the ratio drops below 100% to 98.0% and remains below 100% thereafter. At ages 65 and over, the ratio is 72.2%. In 1960, the corresponding ratio was 82.8%. There

(*Continued on page 7*)

RECENT SOCIAL SECURITY CHANGES

by Francisco Bayo

Social Security changes were passed by Congress on June 30, 1973, as a rider to H.R. 7445 (a Bill extending the Renegotiation Act) and were signed into law (P.L. 93-66) by President Nixon on July 9, 1973. The changes were principally intended to advance the payment of part of the increase in Social Security benefits projected to become effective in January 1975, according to the automatic benefit adjustment provisions enacted last year, but they also include other modifications. The most important changes are as follows:

1. OASDI benefits are increased by about 5.9% (the increase in the CPI from June 1972 to June 1973) effective June 1974, first to be reflected in July 3, 1974 checks. This increase will affect all benefit payments for the 7-month period June 1974 to December 1974.

   Benefits for January 1975 and thereafter will not be affected; i.e., they will be computed as they would have been under the 1972 Act. For example, if benefits were projected to increase by 8.5% for January 1975, according to the automatic benefit adjustment provisions in the 1972 Act, the new changes will increase benefits earlier by 5.9% for June 1974 and provide that the remainder of the 8.5% become effective for January 1975.
2. The annual exempt amount in the retirement test is increased from $2,100 to $2,400 effective for 1974. This will also establish a new point of departure regarding future automatic increases in the retirement test. In that sense, this is a permanent change since it affects the retirement test for all future years.

(*Continued on page 8*)

FELLOWSHIP EXAMINATIONS—THE NEW LOOK

by John A. Fibiger

After extensive study and development within the Education and Examination Committee, a proposal for restructuring the Fellowship examinations of the Society was presented to the Board of the Society at its meeting in October, 1972. The Board "approved the proposal to restructure the Fellowship examinations as recommended by the General Officers as being appropriate in principle to the needs of the Society of Actuaries, but mindful of the interests of the other actuarial bodies and the desirability of their continued joint sponsorship, directed the President to refer the proposal to each of the other actuarial bodies for their consideration with the request that the President report back to the Board the results of such considerations as soon as possible."

The basic provisions of the restructured examinations were summarized in the following manner in the description of Board action furnished to the members of the Society of Actuaries:

1. The Fellowship examinations would be completely reorganized into four examinations structured along functional lines, rather than directed at current products. In brief, the subject matter would be as follows:

   Part 6

   a. Types of coverage
   b. Selection of risks
   c. Marketing

   Part 7

   a. Gross premiums and pension contributions
   b. Analysis and distribution of surplus
   c. Contract values and changes
   d. Experience analysis

(*Continued on page 6*)

The Actuary

Editor . . . . . . ANDREW C. WEBSTER

Associate Editors . . KENNETH T. CLARK
PETER L. HUTCHINGS
FREDERIC SELTZER

Correspondence should be addressed:
The Actuary
Mail Drop 13-2, 1740 Broadway
New York, N. Y. 10019

Published monthly (except July and August) by the SOCIETY OF ACTUARIES, 208 S. LaSalle St., Chicago, Illinois, 60604, E. A. Lew, President, William A. Spare, Secretary, and John T. Birkenshaw, Treasurer.

The Society is not responsible for statements made or opinions expressed in the articles, criticisms, and discussions in this publication.

EDITORIAL

ONE of the larger life insurance companies we learn is now sponsoring television and radio programs introduced by a theme song all its own. While this musical gem has not yet reached the Top Ten, the idea of communicating by means of music might be encouraged for the benefit of the life insurance industry. The possibilities of expansion are practically limitless. The various departments of the life insurance company could each have a voice in the glorious polyphony of the company's musical offering. This might particularly help the actuaries. Since nobody can understand their explanations in speech, perhaps their views would be more readily accepted in song. This might be the beginning of a new musical era to say nothing of a new picture of the life insurance industry.

The companies might vie with each other musically and add brightness and sparkle to the various association meetings they are in the habit of attending. It might even be possible to sell tickets to these musical events (one prominent company should realize that "Rock" is on its way out). Then remembering that "music has charms to soothe a savage breast" the industry's relations with its critics, consumers, and commissioners might be greatly improved if discussions were conducted in song. At least the proceedings should be harmonious.

This is all very well for the companies and their component staffs but what about the consulting actuaries? Should they not have an equal opportunity to warble? Somebody could write a song for consultants extolling their virtues but since they opt for independence, could the public expect a harmonious rendering of the ballad? The audience might resent a performance in which each performer sang in a different key just to emphasize independence, one from another. The industry and the consultants should not however be discouraged from proceeding further along this harmonious way which might even lead to solutions to such problems as marketing old products and inventing new products.

We could contribute to *The Arts* by inviting composers and lyricists to submit suitable songs. As an example of a lyric, perhaps suitable for workers in GAAP, we submit a slightly altered version of G. K. Chesterton's suggested song for bankers.

Up, my lads, adjust the statement, sleep and ease are o'er
Hear the Stars of Morning shouting—"Two and Two are Four"
Though the creeds and realms are reeling, though accountants roar
Though we weep at GAAP accounting, "Two and Two are Four."

A.C.W.

LETTERS

Fellowship Examinations

Sir:

A description of the status of the restructuring of the Fellowship examinations appears elsewhere in this issue, but I would like to add some personal opinions in response to the letter from G. B. Saksena appearing in the *May* 1973 issue.

He suggests that the proposed restructuring is simply "laying the groundwork for the next revision which may not be long delayed." He also states that the "Pentagon" of the Society's Education and Examination Committee does not appreciate the turmoil into which the student body is thrown at each revision of the syllabus. I can assure him that we of the "Pentagon brass" fully appreciate the turmoil of a restructuring, both in its impact on students and also the impact it has on the orderly functioning of the committee.

He comments on the frequency of revisions and yet by the time the restructuring takes place it will have been at least 13 years since the last major revision. In that time we have seen a vast expansion of topics with which actuaries are supposed to be familiar, including equity products, variable annuities, variable life insurance, generally accepted accounting principles, substantial changes in Internal Revenue Service requirements, Social Security expansion, Medicare, etc. Current developments in the areas of consumerism, national health insurance, health maintenance organizations, minimum standards for pension plans, and regulatory requirements at both the state and federal level indicate that the actuary will be dealing with a continuing dynamic situation.

Mr. Saksena suggests that the syllabus should be a framework of topics. This is precisely what we have now, and I believe that it is this arrangement by topics which produces the need for periodic revisions of the syllabus as the need arises to add new topics, expand existing topics, replace old topics, and combine existing topics in different and more appropriate ways.

The restructured syllabus is designed to allow more emphasis to be placed on actuarial principles, since the examinations will be structured along the lines

(Continued on page 3)

Letters

(Continued from page 2)

of the varied duties of the actuary as he deals with risk and its financial consequences, rather than with various topics with which the actuary might become involved. As the actuary deals with a situation involving risk, it is necessary to develop a mechanism for covering the risk, to price the assumption of the risk, to value and maintain a risk which has been assumed, and to consider the external factors which are constraints on the freedom the actuary has to deal with the risk. The four Fellowship examinations will correspond roughly to this division of actuarial duties.

Hopefully, this will provide a framework by which new developments can be introduced in a manner appropriate to the current involvement of the actuary. As an example, the work of the actuary in connection with variable life initially came in the areas of design of the product and regulatory considerations, with pricing somewhat secondary, and techniques of maintaining the coverage in force relatively unimportant until the final design of the product was set. Thus a new development such as this would be introduced into different Fellowship examinations at different times as developments made it appropriate.

This restructuring should offer a framework in which future examinations may be less tied to details of the study material presented and may be oriented more toward questions asking the prospective actuary to demonstrate his ability to apply the principles he has extracted from his studies to a situation which is related to topics he has studied, and which he might be expected to encounter in practice.

In summary, the goals of the restructuring are to provide a framework by which the syllabus can be changed gradually without the need for future restructuring, and to allow more emphasis to be placed on actuarial principles rather than memorization of facts. The General Officers of the Education and Examination Committee are enthusiastic about the potential of the restructuring to accomplish these goals, which we consider desirable enough to warrant the inconvenience and difficulties of the transition to both students and examiners.

John A. Fibiger

* * * *

Notation

Sir:

On the subject of address for females,
I feel I've a right to be heard.
You've all had your fun—
I'll take M_{21}
And hope that's the very last word!

Daphne D. Bartlett

* * * *

Sir:

I found myself slightly put out at the lack of imagination and awareness shown in the proposals for notational differentiation between male and female mortality tables. This was particularly true in view of the juxtaposition of an editorial crying the need for awareness in the profession.

Proper symbols with a long and honorable history are already available and in wide, general use so that almost any lay person would recognize the symbology. I would propose, in all seriousness, the adoption of the form

* $M_{♀}$ for Female tables and

* $M_{♂}$ for Male tables

Combined tables would, of course, be designated by $M_{⚥}$

Tables interrelated by some age set back or forward (such as 1 year) could be designated

$M_{\underline{♀}}$ or $M_{♂}$

The circle provides an eye-catching frame for the required age variable.

John H. Beales, Jr.

* Also suggested by Ardian Gill.

* * * *

Long Range Terminations

Sir:

In response to E. J. Moorhead's letter to *The Actuary* of June 1973, regarding present-day trends of voluntary termination ratios of ordinary policies at long durations, I offer the following.

We calculated voluntary termination ratios for 5 year duration blocks based on New York Life's lapse experience during the calendar year 1972. For purposes of the study, terminations included lapses without value, surrenders, and changes to extended term or reduced paid-up insurance. All ordinary paid issues of 1908 through 1967 which were in force as of December 31, 1971 were included in the study. Therefore, the voluntary termination ratio for mean policy years 6-10 was based on lapses during 1972 on issues of 1963-67 which were in force December 31, 1971.

The ratios of voluntary terminations to insurance in force were as follows:

Mean Policy Year	*Voluntary Termination Ratio*
6-10	4.25%
11-15	3.00
16-20	2.43
21-25	2.59
26-30	1.90
31-35	1.63
36-40	1.59
41-45	1.65
46-50	1.51
51-55	1.74
56-60	1.58
61-65	1.80

Mr. Moorhead's observation that the voluntary termination ratios were stable beyond the fifteenth policy year does not apply to up-to-date experience for New York Life. There was instead a trend of decreasing ratios which lasted until the 31-35 policy year group. At that point the stability Mr. Moorhead noted began to occur and continued through the 61-65 policy year group.

It should be remembered that the ratios presented here are based on the lapse experience of only one company and during the calendar year 1972, a year marked by relatively heavy lapse experience due to uncertain economic conditions, high interest rates, and heavy policy loans.

I hope these data are useful to Mr. Moorhead and other interested actuaries.

Thomas R. Huber

* * * *

Survivor Benefits for the Uniformed Services

Sir:

The new Survivor Benefit Plan for retired military personnel, as reported by Kriss Cloninger, III in the April issue, presents an interesting question.

The new Federally-subsidized system replaces the previous "actuarially-sound" system. Members of the old plan are given the option of, (a) continuing under the old plan, (b) dropping the old

(Continued on page 4)

Letters

(*Continued from page 3*)

plan and taking the new, (c) keeping the old and taking the new, subject to the limitation that the total survivor benefit cannot exceed 100% of retired pay.

If all members of the old plan (approximately 125,000) were to drop out, this would leave a surplus of about $100 million. This would revert to the Treasury, as the law specifically prohibits refunds. Present indications are that about 75% will drop out. The remaining 25% will probably show the effects of adverse selection, so the precise amount released cannot be known immediately.

What are the ethics in this situation? The old plan did not provide for adjustment of benefits when the Consumer Price Index increases, whereas the new plan does. Some of the 10,000 present beneficiaries are being paid in substantially depreciated dollars.

Mr. Myers has noted that two reasons have been advanced for increasing benefits under the new survivor plan (and military retired pay) by 4% whenever the price index has increased 3%. The additional 1% is, (a) a recompense for the delay in increasing benefits, (b) a concession that non-producing members of the population are entitled to a partial share in the increased standard of living resulting from increases in productivity of the producing population. If intended solely as a recompense for delay, the appropriate adjustment would appear to be a temporary increase of 1½% for a period equal to the delay time (this assumes a linear increase in the price index).

To take a lighter view, I think it fortunate that there are two possible reasons; in Washington, one reason is seldom enough.

Joseph B. Glenn

* * * *

Pension Funding

Sir:

In the September issue, Mr. Charles M. Larson has brought to the attention of actuaries the possibility of using a unit credit cost method without salary scale factor or termination discount for final pay pension plans. Under the suggested method, current contributions would be the unit credit normal cost increased (or decreased) by the amount of actuarial loss (or gain) in the prior plan year. All actuaries can agree with Mr. Larson

(*Continued on page 5*)

WHAT ᵀ AI

by Davi

Introduction

The people with whom one comes in contact invariably get around to asking, "What do you do for a living?" It is with considerable trepidation that I reply, "I'm an actuary" because very few individuals seem to know what the word means or even that it refers to a person. As this ignorance was most disturbing to me, I set out to gather evidence as to what sort of person (if any) knew what an actuary was. The survey was conducted in the cities of New York, Phoenix, St. Louis, and Boston. The geographic spread was intended to add an additional dimension to the results.

Clearly we should not expect the public to have great familiarity with the actuarial profession for, after all, how often does the average person come into contact with an actuary? The actuarial profession, however, is too little known and this is unfortunate from several standpoints. Firstly, it is a growing profession with an insurance-minded nation serving as the impetus for continuing demand for actuaries. With the present shortage in engineering and teaching openings, many qualified people with mathematics backgrounds could make important contributions to actuarial science. The problem is that many are unaware of its existence. Secondly, more so than ever, there is a need for accreditation which professionals such as accountants, lawyers and doctors have all achieved. The relative obscurity of the profession probably serves as an obstacle to official recognition. Finally, there is the question of prestige. The road to Fellowship is a difficult and demanding one, and it is only human nature to desire recognition after the tremendous effort expended to acquire Fellowship. For all of these reasons there is a need to make the actuarial profession better known. I had hoped the results of the survey would serve as additional evidence of this need.

Results

The survey was conducted in front of the largest public library in eac' ity. Various census-type questions such as sex, residence, date of birth, citiz ip, marital status, occupation, education completed and approximate annual income, were asked of those interviewed. Finally the key question was posed, "What is an Actuary?" The following table analyzes the basic exposure.

Table 1	New York	Phoenix	St. Louis	Boston
Stopped and responded	100	100	50	50
Male respondents	71	73	38	42
Female respondents	29	27	12	8
City resident	75	82	30	22
Average age (years)	27.4	31.6	31.5	24.0
U.S. citizenship (%)	91	100	98	98
Single respondents	72	35	22	37
Married respondents	25	61	26	11
Other marital status	3	4	2	2
Students	31	14	9	28
Unemployed	9	8	2	1
Other occupations	60	78	39	21
Average education (years)	14.9	14.8	14.7	14.4
Average annual income	$7400	$9500	$8500	$6000

The distribution by sex reveals little more than that possibly more men use the libraries. With respect to age, it is apparent that those under 30 dominate the survey. The figures for Phoenix and Boston appear to reflect the relative population as well. Phoenix, with its warm climate, attracts the middle and upper age group while Boston is a great center for education and hence has a large population of youth. The results for marital status correlate positively with those of average age. I found the occupation responses to be quite remarkable in that, considering unemployeds and retireds as two separate categories, there were 92 distinct p ons represented by 300 people. 82 of the 300 were students, and 20 were unemp yed, comprising 8 (2 positions, 4 cities) of 368 cells. Of the remaining 360 cells only 3 had more than three entries. In the area of education, the highest percentage had Bachelor Degrees except for Boston where the majority had completed two years of college thus reflecting the young average age. Average figures were remarkably close

ACTUARY?

P. Wilens

despite an average age difference of 7.6 years between Phoenix and Boston. The average annual incomes also correlates positively with average age as expected.

The following are the most popular responses to "What is an actuary?"

Table 2	*New York*	*Phoenix*	*St. Louis*	*Boston*
Someone who works with insurance tables and rates	20	22	9	12
Someone in insurance	1	4	0	2
Something to do with insurance	12	11	6	1
A legal term	4	3	2	2
Something real or actual	4	6	1	6
A table telling how long people live	1	1	1	0
An accountant	1	0	1	1
Someone who takes action	1	1	1	1
No idea	42	38	24	21
Others	14	14	5	4
	100	100	50	50

Considering the first response as a best answer, the highest percentage of such answers came from Boston (24%) followed by Phoenix (22%), New York (20%) and St. Louis (18%). From a total of 300 respondents, 63 gave best answers as compared with 125 who had no idea.

Among the "others" are: "someone who helps set up a pension plan," "a money manager," "someone who handles real estate," "an accounting principle," "someone involved in wills," "a math system," "a statistical study," "a person with his own b[illegible]," "a place where things get done," "a residence," "a person in buying and selling," "a true statement," "a reactionary," "a mortuary," "a public servant," "a bird sanctuary," "a heart attack" and finally—the one that made it all worthwhile, "it's where they bury dead actors"!!!

In completing the analysis, I examined those who gave best answers with respect to the key criteria in the study. The following table gives the results:

Table 3	*New York*	*Phoenix*	*St. Louis*	*Boston*
Male respondents	17	19	9	12
Female respondents	3	3	0	0
Average age (years)	34.7	37.8	33.1	26.5
Single respondents	13	4	4	7
Married respondents	6	17	5	4
Other marital status	1	1	0	1
Average education (years)	16.5	16.2	16.5	16.1
Average annual income	$10,600	$15,700	$10,000	$6,600

The sex differential is not good news for women's lib with only 9½% best answers as compared with 25% total representation. Average ages are all higher than their respective city averages with spreads ranging from 1.6 years in St. Louis up to 7.3 years in New York. Marital status seems to reflect age in the same manner as for the large group. Average education figures indicate that those with best answers have had more schooling than the large group. The income results are in the same relative magnitude as the figures for the large group, however, the range is much larger at $9100 as compared with $3500. The large differential in Phoenix and small one in Boston once again reflect the population composition.

Conclusion

Although the sample is a relatively small one, we can make some general observations. First, 63 best answers out of 300 with 125 "no ideas" is some indication of actuarial obscurity. Those with best answers were on the average, older, more educated and well-to-do, indicating somewhat that knowledge of the actuarial profession comes with experience.

At least the figures emphasize the need to make our profession better known. □

Letters

(*Continued from page 4*)

that it would be wrong to require entry age normal funding with salary factors for every final average pay plan and every employer. Unfortunately, a limitation on the centerfold space apparently prevented him from demonstrating some of the less obvious advantages of his method.

Actuaries who favor the level cost method usually argue, with an almost missionary zeal, that the pattern of costs over a given individual's career under the unit credit cost method would be unsatisfactory. In the table below the annual cost per thousand dollars of annual pay is shown for an employee starting at 25 covered by a pension plan with benefits of 1½% of final average pay which is funded by the suggested method. Completely realistic assumptions have been chosen for this purpose, namely 8% interest and 6% pay increases. Annual costs are also shown for group life insurance benefits at two times pay.

Annual Cost per $1,000 of Annual Pay

Year of Age	Pension Cost Unit Credit Plus Actuarial Loss	Group Life One Year Term Basis
30	$ 11.99	$ 4.15
40	41.19	6.91
50	125.39	16.28
60	377.15	38.55

This table demonstrates that the pattern of pension costs is identical with that of group life insurance; both of them increase monotonically with advancing age. It is well-known that many years ago employers provided group life insurance at an average of only one half a year's pay, whereas currently, the typical group life plan provides two year's pay. Clearly the pattern of group life premium costs must have been of considerable advantage to employers for them to have quadrupled the benefits. Presumably the recommended pension cost pattern would be found even more advantageous. A few companies that may have become overly mature would not find the method helpful, but any employer whose business prospects will forever remain promising and whose staff will thus expand continuously, should carefully consider the possibilities.

The suggestion that funding be based on the unit credit normal cost plus actuarial loss also has some rather surprising advantages in connection with pay increases. The cost for the 1½% final pay

(*Continued on page 8*)

Fellowship Exams

(Continued from page 1)

Part 8

a. Investments and valuation of assets

b. Valuation of Liabilities

Part 9

a. Law

b. Taxation

c. Accounting

d. Social insurance

2. Each of the four Fellowship examinations would include two branches, a Group Coverages branch ("G") and an Individual Coverages branch ("I"), and would consist of three sections:
   a. A 3-hour paper, probably consisting entirely of multiple choice questions, to be taken by all candidates, covering basic material similar to that now given on Parts 6-8.
   b. A 3-hour paper, probably consisting entirely of essay questions, to be taken only by students electing the Group Coverages branch, and covering both basic and advanced material pertaining to the "G" branch.
   c. A 3-hour paper, probably consisting entirely of essay questions, to be taken only by students electing the Individual Coverages branch, and covering both basic and advanced material pertaining to the "I" branch.

The net effect of this would be that, on each Fellowship examination, a student will take a "major" in either Group or Individual Coverages and a "minor" in the other.

3. The number of hours of Fellowship examinations would be 24 instead of 25 at present. In addition, there would be 19 hours of Associateship examinations, for a total of 43 hours instead of the present 44.
4. A student would receive credit for an examination without specification as to whether he had taken the "G" branch or the "I" branch. While it is assumed that students would take the same branch of all Fellowship Parts after attainment of Associateship, it would be possible for a student who has passed one or more examinations in one branch to pass the remaining examinations in the other branch if his job circumstances or career interests change.

As can be seen from the listing of subject matter shown above, in general concept, Part 6 would consist of material relating to various aspects of securing insurance or pension coverage; Part 7 would cover pricing and related financial aspects of risk coverage; Part 8 would include material relating to the maintenance and continuation of insurance contracts or pension plans and the investment of assets; and finally, Part 9 would contain those subjects pertaining to the influence of external factors in society.

In December 1972 the Society's Advisory Committee on Education and Examinations and the Joint Committee on Review of Education and Examinations held a combined meeting in Chicago for the sole purpose of reviewing the implications of the proposed restructuring on all the joint sponsoring organizations. Each of the six actuarial organizations which jointly sponsor the examinations administered by the Society are represented on the Joint Committee. The Society's Advisory Committee also has liaison delegates from each of the other five organizations.

Since then, the proposal has been considered by the Boards of the five actuarial organizations from whom responses were requested. Each has now responded, indicating general acceptance of the proposed restructuring.

While awaiting the response from these organizations, the General Officers of the Education and Examination Committee continued to work on the restructuring proposal in two specific areas. In the area of proposed transition arrangements, a set of principles has been developed to govern any set of rules for transition. These guidelines for transition rules are as follows:

1. A morning (or afternoon) paper longer than 3½ hours is unacceptable.
2. The total of fractional exams within one new exam must add up to exactly 6 hours.
3. A morning or afternoon paper cannot be subdivided into more than two fractional parts.
4. The length of fractional exams must be in half-hour multiples (i.e., 1, 1½, 2, 2½, etc.).
5. A one-hour fractional exam is acceptable, but only if all students writing that fraction are writing some other portion of the same exam.
6. Each exam on the current syllabus should receive at least 4 exam hours of credit toward the new syllabus.
7. The number of exam hours of credit for the current Parts 9-I and 10-I should be within ½ hour of the corresponding credit for the current Parts 9E and 10E, respectively. However, it is not necessary that students who have passed Parts 9-I or 10-I receive credit for the same portions of the new syllabus as those students who have passed Parts 9E or 10E, respectively.
8. There should be a minimum of situations in which material previously studied by a passing student has to be restudied for the new syllabus.
9. There should be a reasonably close correspondence of subjects and amounts of reading material between "I" and "G" branches of each new exam.

A transition arrangement has been developed which will satisfy the above guidelines. While it has not yet been definitely established that the proposed transition arrangement will be adopted, any significant change from the proposed transition rules will be made within the scope of these guidelines.

The second area of activity relates to the appointment of a special Steering Committee with specific responsibility for monitoring the implementation of the restructured syllabus. It is imperative that the preparation of educational material for the present syllabus be continued while the new syllabus is being developed. Accordingly, the Steering Committee was formed as a subcommittee of the Education and Examination Committee so that development of the restructured examinations could be monitored without conflicting with the need to maintain current educational material.

It is expected that the many details connected with the restructuring will be finalized during 1974-75, and the Steering Committee was appointed with consideration of the assignments of the E&E Committee during these years. Harold Ingraham, who will be Vice-General Chairman of the E&E Committee in 1974-75, has been named to head the Steering Committee. Other members include John

(Continued on page 7)

Fellowship Exams

(Continued from page 6)

Fibiger, W. James MacGinnitie, Michael McGuinness, Walter Miller and C. Barry Watson. Other General Officers of the E&E Committee will attend Steering Committee meetings when it is appropriate for communication or carrying out E&E Committee duties more efficiently.

The first Steering Committee meeting was held in late August. A decision was made to appoint, for each new Part, an individual with specific responsibility for leading a committee which will examine existing and new study material of the present syllabus as it might affect the Part, recommend new material which should be prepared for the Part, and assess details of the transition to the Part as it would affect study material and personnel of other committees. The selection of these individuals is in progress.

It appears at present that the earliest the restructured examinations could be implemented in practice is May 1976, although this date is still an unofficial target. Students of the Society, who are naturally concerned about the specific details of the transition arrangements because of the impact it will have on them, will be given notice of the detailed transition arrangements not later than 18 months before the first date that the new examinations will be given. This will allow them at least one chance to study for and take both Spring and Fall examinations of the current syllabus in the light of the transition arrangements.

While 18 months is a minimum, it is considered desirable by the E&E Committee to publish transition arrangements as far ahead as possible. This will be done as soon as the date of the first restructured examination has been set and transition arrangements finalized.

The Board of Governors has authorized the Education and Examination Committee to continue with the implementation of the restructuring, with the understanding that developments and decisions on the new examinations will be reported to the Board from time to time.

Editor's Note: A letter from Mr. Fibiger published in this issue outlines some of the considerations of the Education and Examination Committee in developing this proposal. □

Committees

Three new Ad Hoc Committes have been appointed as follows.

Committee on
Cost Comparison Methods and Related Issues

Bartley L. Munson, *Chairman*
Daphne D. Bartlett
Lee H. Kemper
Robert L. Pawelko
C. Norman Peacor
Ian M. Rolland

Committee on
25th Anniversary Celebration

Morton D. Miller, *Chairman*
Richard M. Fridley, *Vice Chairman*
Robert H. Hoskins
Richard Humphrys
Wendell A. Milliman
Robert J. Myers
John K. Roberts
Richard S. Robertson
Cecil G. White

Committee on
Representation by Region and Occupation

Richard Humphrys, *Chairman*
Andrew Delaney
R. A. Field
William Halvorson
Meno T. Lake
Edwin J. Matz
Robert J. Randall

Actuarial Meetings

Oct. 10, San Francisco Actuarial Club
Oct. 11, Actuaries' Club of Boston
Oct. 15, Chicago Actuarial Club
Oct. 17, Seattle Actuarial Club
Oct. 17, Actuaries' Club of Des Moines
Nov. 8, Baltimore Actuaries Club
Nov. 19, Chicago Actuarial Club
Nov. 21, Seattle Actuarial Club
Nov. 28, Actuaries' Club of Des Moines

Deaths

Evelyn P. S. Allen
Ward Van Buren Hart

Women's Lib

(Continued from page 1)

are interesting theories as to why more males are born than females but these are outside of the scope of this article. The important point is that this excess of males disappears at a relatively young age and that the distribution is changing to favor females.

If women have a lower mortality rate than men, women will simply outlive men and we are starting to note this. But there are other complications that we are beginning to become aware of and these are important. Not only are women beginning to be treated fairly so that many more jobs are available to them at the same salaries offered males, but in time, and not a long time, there will be more female applicants for particular jobs than there will be male applicants. It stands to reason that women will begin to appear in an ever increasing variety of jobs and that they will gradually move upward to higher and higher position in many industries. In other words, women will triumph in their fight for equitable treatment just by the sheer force of numbers.

But this raises some questions not for the present but for the future. Will the concept of one man married to one woman survive or will plural marriages (more than one wife with one husband) be necessary and therefore socially acceptable? Will women inherit the illnesses of men with their added job opportunities, due to so-called stress jobs, or is this bogus? Will women do any better job in politics and government than males? Will the male-female roles become reversed (bread winner and home-maker) in many cases?

It is likely that women and not men will dominate business and politics and that only biological tampering with the basic elements of life (some of which is now occurring) or atomic war can stop the success of the female movement initiated in the late 1960's.

Perhaps this was anticipated by Kipling when he wrote "The female of the species is more deadly than the male!" □

Letters

(Continued from page 5)

plan for a salaried group having a typical average age and service distribution was found to be approximately 11.9% of payroll. For such a group, the employer who grants an across-the-board 10% pay increase will find that his pension costs on the suggested method in the following year will increase by 11.2% of payroll to a total of 23.1%, and on a 10% greater payroll base. This sizeable increase in pension cost will no doubt serve to restrain the unwary employer from an over-enthusiastic adoption of across-the-board pay increases in amounts that cannot be permanently supported by the business. In the case of a rather mature organization, where pension costs by this method worked out at 19.7% of payroll, a 10% pay increase was found to involve an added pension cost of 18.9% for a total of 38.6% of payroll in the next year. Thus the funding method by itself provides a greater disincentive for unrealistic pay increases for the mature companies. Incalculable social good might come of this.

There are considerable investment advantages offered by the unit-credit actuarial-loss funding method. Given a period of several years in which insurance company rates, the employee group, and the rate of salary increases are all fairly stable, consider the remarkable effect of a temporary drop in market value of fund assets of say 20%. In order to maintain the pension fund at a level equal to the value of accrued benefits, the required contributions from the employer must be increased by 20% of the previous market value of the fund. On the surface this may seem unsatisfactory but note that the added contribution will come to the fund at a time when the market is at low ebb so that these extra funds are invested when they will buy a greater number of units of the particular securities considered desirable for the fund. Similarly, a rise in market value would reduce or eliminate the required employer contribution at a time when security prices are high and the investment of a given sum would thus purchase fewer units. This advantage is so great that monthly or weekly actuarial valuations and redetermination of employer contributions may prove desirable in order to maximize the fluctuations in employer contribution and thereby maximize the investment advantages.

Mr. Larson assumed that Employer B has a pension trust that is "a poor investment vehicle." If so, B's first concern should be a changeover to the best investment vehicle possible for his pension monies, because while a reduction of contributions to a poorly performing fund clearly represents less waste than would have been the case with higher contributions, it still represents a source of unnecessary cost. Going further, if as suggested Employer B really has customers who will not accept price increases and if he has no excess funds in his business, then logic requires that he seek the absolute minimum amount to be placed in the pension trust. Zero contribution requirements can be achieved if B will simply forego the luxury of promising pensions to his employees. And, by having no plan at all, B can also meet Mr. Larson's second requirement that his employees should not run any risk with their pension rights because of B's funding method. With no rights there can be no risk. Actually, the employees under this set of circumstances are demonstrably better off because they then are so clearly responsible for the provision of their own financial support in old age that they will not be tempted to rely on the promises of Employer B. Finally, if B's customers are not even willing to accept the price increase necessary to pay B's employees their direct wages, then social insurance and welfare payments would solve the problem of income replacement quite adequately because there would be no income that needs replacing.

If an employer adopts the unit credit method with no salary projection factors and with immediate funding of actuarial losses and also wishes to eliminate most of the losses from the actuarial calculations, he could restrict his pension promise to a career average benefit accrual. Otherwise, under a final average pay plan, his accountant might well shudder slightly if he understood that the actuarial pension cost for a current year included an expense created by service rendered 30 years in the past.

The actuarial profession is indebted to Mr. Larson for his careful analysis of this brand new funding method. His characterization of the approach as a low cost method for employers who want to pay the very least is perhaps too modest. Clearly, it also offers a heavy funding alternative for the employer who is now paying pensions out of pocket and whose gains therefrom, having been invested and reinvested in the business, now threaten the accumulation of an unreasonable surplus and all the tax penalties associated therewith.

Paul H. Jackson

Actuarial Clubs

Any newly formed actuarial club or any unlisted actuarial club wishing to be listed in the Year Book should advise the Executive Director before December 1, 1973 giving details in the style of the Year Book.

Clubs already listed should check that the present details in the Year Book are up-to-date and advise the Executive Director of any changes.

Social Security

(Continued from page 1)

3. The taxable earnings base is increased from $12,000 to $12,600 in 1974, which will be the new starting point in the automatic provisions. This is also a permanent change in the law.
4. The eligibility requirements for adopted grandchildren are liberalized so that the one year of "support" and "living with" the grandparent can occur at anytime rather than before the grandparent became a beneficiary, as was the case under the previous law.

The amendments also included a few changes in the Supplementary Security Income Program for the Aged, Blind and Disabled written into law last year and scheduled to start operations in 1974. Among the changes in this Program are the following:

1. The SSI payment levels be increased from $130 to $140 per month for individuals and from $195 to $210 per month for couples, effective for July 1974.
2. The payments to "essential persons" as defined under the present State programs, be increased from $65 to $70 per month effective for January 1974.
3. Recipients on a State roll at the end of calendar year 1973 cannot have their income reduced because of the new SSI program. □