ABSTRACT OF THE DISCUSSION OF PAPERS READ AT THE PREVIOUS MEETING

THE STATISTICAL SURVEY OF THE MASSACHUSETTS COMMISSION INVESTIGATING THE QUESTION OF OLD AGE PENSIONS—

EDMUND S. COGSWELL

VOL. XII, PAGE 97

WRITTEN DISCUSSION

DR. FREDERICK L. HOFFMAN:

Mr. Cogswell has rendered a genuine service to insurance actuaries by presenting in brief outline the essential facts and findings of the Massachusetts Commission, the most important of its kind that has considered the essentials of the old age pension question.

The minority of that Commission were men of outstanding ability, who have dispassionately considered every phase of the question and presented conclusions entitled to the utmost consideration. Mr. Cogswell, as Secretary of that Commission, was primarily responsible for the methods of investigation and the presentation of the results in the report which constitutes one of the most important contributions to economic science. For economics in its last analysis is the science of wealth, its accumulation and distribution. Non-contributory old age pensions are in all cases a modified form of poor relief, cleverly disguised under a terminology which is wholly inadmissible.

Mr. Cogswell draws attention to the amount of the pension provided, which in no case exceeds $1.00 a day and runs as low as $25.00 a month in the state of Montana. This amount does not provide adequate support in old age and is, therefore, but a supplementary form of poor relief. He might have emphasized the point that the amounts provided are a mere entering wedge into a much larger form of relief, as time goes by. That has been the experience everywhere old age pension laws have been enacted. The Massachusetts age limit was 65 years. Here again Mr. Cogswell might have pointed out that the tendency everywhere is towards the lowering of the age, in course of time, certainly to 60, and in the case of women to 55 years.

For the first time a large amount of new information was secured for nearly 20,000 persons not in receipt of public relief. This is precisely the element which it is expected to reach should non-contributory old age pensions be established, and which at the present time maintains itself, in one way or another, without state assistance. It might have been pointed out that the dependent population will be hindered, rather than helped, by old age pension legislation, for its status, which in many cases is far from what it might be, will not admit of material improvement as long as public funds are expended upon those who can manage somehow to do without them.

In other words the real problem of adequate support in old age concerns those who are now entirely dependent and in need of better care, particularly in the event of illness. The squandering of public funds in small amounts, totally inadequate for personal needs, must needs deprive them of what might otherwise be available.

The plan followed by the Massachusetts Commission, under Mr. Cogswell's direction, was wholly admirable and it is hoped will be adopted in similar inquiries elsewhere. Particularly does this apply to the investigations now in progress by the National Civic Federation, which also fortunately have the benefit of Mr. Cogswell's assistance, but it is doubtful if equally satisfactory records as were available in Massachusetts are likewise available for many other States.

As Mr. Cogswell points out, about ten per cent. of the population in each of the counties considered was interviewed, and this for the present purpose may be considered a satisfactory cross-section of the actual conditions affecting the whole of the aged population.

In my judgment the procedure of not weighting the figures obtained added to their value. It is certainly gratifying to find that of the aged population of 65 years and over, 84.4 per cent. in the state of Massachusetts were found to be non-dependent. But of the population of 70 years and over the proportion was only 79.2 per cent. Upon more careful analysis it would probably have been found that nearly all the strictly dependent cases were persons more or less impaired in health or physically incapacitated otherwise.

With reference to the property returns the analysis might possibly have been carried somewhat further, but it is extremely difficult to do so. Those possessing properties of substantial amounts or of more than $5,000 are usually the people who are most reticent to discuss the facts.

Mr. Cogswell draws attention to an extremely important result of the investigation to the effect that "the economic condition of married persons was better than that of single or widowed women or of the single or widowed men." In an age in which the marriage institution is assailed from many sides, in which the trend is rather towards the non-marriage on the part of many who ought to be married, this statement should prove of value.

It is also decidedly suggestive that of the persons interviewed, who had property of less than $5,000 in value, or less than $1,000 income, nearly 35 per cent. were still self-supporting. It might have been emphasized in this connection that the suitable employment of the aged has never received, on the part of economists or social reformers, the attention of which it is deserving.

Of exceptional interest are Mr. Cogswell's observations on life insurance. He points out that nearly two-thirds of the aged persons interviewed carried no life insurance, while most of the remainder had industrial policies. Here it might be pointed out that in many cases, no doubt, the policies previously in force had probably been on the endowment plan and had terminated. As I understand it inquiry was not made into the facts of previous insurance, but only into the facts of insurance in force at the time the inquiry was made. For industrial insurance the results are a gratifying indication of the progress which is being made in this direction, for most of the policies were of amounts of over $200, which in any event would provide an adequate burial and for the last medical attention. The life insurance inquiry might have been carried further, but considering the large amount of information gathered on other questions this was probably not considered feasible, but life insurance is such an important factor in the economic life of the people that future investigations are more likely to concentrate attention upon its incidence in cases of dependence, as well as economic independence in old age.

It is not going too far to say that life insurance, more than any other form of thrift, fosters the habit of systematic saving, not only for life insurance purposes, but for many economic purposes otherwise. No form of insurance has been more beneficial in this respect and in this direction than industrial insurance, or insurance on the weekly payment plan.

Finally, Mr. Cogswell draws attention to another supremely important result of his investigations and that is the incontrovertible fact that the large majority of persons, not dependent in old age, were persons who had living children. Just as the investigation supports the institution of marriage, as a safeguard against dependence, it equally supports the larger family as a safe-guard in this direction. There is a further conclusion also of importance that "the ability of children to support their aged parents in full and without outside assistance increased with the number of children living." In view of the decline in the size of the family, and the increase in the proportion of families without children, these figures are of great practical significance; for, in quoting Mr. Cogswell's own statement: "A large family of children is a great advantage. Among other things it helps to keep one out of the poorhouse."

Old age pension legislation is a flimsy pretense on the part of social reformers who use a pleasing terminology to hide the sordid truth of poor-relief. All such relief or support, which has not been earned, is public support and never a right or the result of unearned benefits on the part of the population concerned. The minority members of the Massachusetts Commission, therefore, wisely rejected the pernicious proposal to establish non-contributory old age pensions in the state of Massachusetts, than which no state in the Union prides itself more on the thrift and economic independence of its people.

Mr. Cogswell deserves the thanks and appreciation of the members of society for his scholarly and painstaking contribution to the important question under consideration.

ACCOUNTING METHODS FOR CASUALTY COMPANIES BY USE OF THE HOLLERITH SYSTEM—THOMAS F. TARBELL

VOL. XII, PAGE 215

WRITTEN DISCUSSION

MISS A. C. DARKOW:

Mr. Tarbell's analysis, at once comprehensive and detailed, of the uses of the Hollerith premium card may, I believe, be supplemented by a brief account of the development of the premium card in a casualty company of a few years' growth.

It is now a fact, generally known and as generally acknowledged, that the business of casualty insurance could not be transacted on a scientific basis without elaborate mechanical equipment. In fact, it could not be carried on at all without punching, sorting, and tabulating machinery of some type, since to keep all necessary records by individual clerical labor would involve prohibitive expense—expense, indeed, so great that the insurance premium would almost be an expense pure premium plus a loading for losses.

The records involved in the successful conduct of any insurance company fall broadly into three classes:

First. Those needed to inform the company of its progress and the progress of its agencies;

Second. Those needed to provide information in considerable detail to rate-making bureaus; so that equitable cost may be assured the policyholders;

Third. Records on which are based current statements of the status of the company's affairs, and these are required by law.

The mechanical equipment used in the entry and collocation of data for these records consists, as is well known, of punch, verifier, sorter and printer-tabulator.

These machines reduce what would be an impracticable task for, say, fifty clerks to a simple practicable procedure for one-fifth as many. The use of some such machinery is common to all insurance companies but each company works out its own salvation in the matter of extracting the maximum benefit from the use of this equipment. It may be illuminating to illustrate the development of the premium punch card in the recent years of a young casualty company. From this premium card, incidentally, must be derived information for keeping the records enumerated above.

The premium card originally devised had on it information satisfying the requirements of the three types of records enumerated above, *i. e.*

1. Information regarding the issue year, term, and expiration of the policy, all necessary for the calculation of the premium reserve.

2. Information regarding the writing agent.

3. Information on state, or state and city, chargeable with the policy; and further information needed for ratemaking.

In addition, of course, it was necessary to indicate a designating number. Two sections were allowed for premiums, one for premiums written (on the cancelation card this was punched for original premium canceled) and the second for return premiums, used on the cancelation card only. For premium tabulation purposes, because the same section of the card was used for premium written and the original premium canceled, it was necessary to run the writing cards and the cancelation cards separately. This involved two-fold sorting and two-fold tabulating and greater awkwardness in balancing the sheets in the clerical section. This consideration and the fact that in the next year the amount of information necessary for rate-making purposes had increased, led to the development of two premium cards instead of one. The two new cards were:

1. A card bearing premium reserve, agency, and state information, on which three sections were allotted to premiums, in the following order; original premium canceled, premium written, and return premium. In tabulations for balancing purposes and in tabulations of agency figures these cards—premium and cancelation—were sorted together and put through the printer together, thus effecting a considerable saving of time in sorting and tabulating.

2. A second card bearing information for rate-making, on which separate sections were allotted to positive exposure and negative exposure, and positive premium and negative premium. These premium and cancelation cards were also sorted and tabulated together. Difficulty arose, however, when it became necessary to balance the two sets of cards, one against the other, by policy year and by state. Moreover, the amount of labor expended in punching and verifying the second set of cards was a considerable additional expense.

By the third year the system of two sets of cards was abandoned, and all necessary premium information was included on one card by the old expedient of allowing only one exposure section (used for exposure and premium written on the writings card and for exposure and premium canceled on the cancelation card); and by the additional device of showing the original premium canceled in dollars only so that the section reserved for it used only four columns. This plan of operation while dispensing with a second set of cards, and the disadvantages inherent in that method, made it once more necessary to sort separately and tabulate separately premiums and cancelations.

In the meanwhile other companies had used successfully the complement method of punching cancelations (*i. e.*, 99998.75 for minus 1.25). The use of complementary figures made it possible with only one exposure and one premium section to sort and tabulate premium and cancelation cards together and, still better, produced net figures in the tabulation instead of gross and net. On the other hand a section was still needed for original premiums canceled (for premium reserve purposes), and this together with the fact that for complement use exposure and premium sections should consist of not less than eight columns, made the use of two sets of cards apparently inevitable. To the best of my knowledge all companies punching cancelation figures in complements have used two sets of cards.

The ideal solution was obviously one combining the advantages of the complement system with the advantages of using only one set of cards. Whether such a solution was available seemed doubtful for some time but at last an expedient was hit upon. This expedient lay in a revision of the current method of dealing with term cancelations. It is customary to punch the original premium (canceled) and the return premium, the difference between the two being automatically thrown into earned premium. But the same result can be obtained from punching the original premium (canceled) in red, as the return premium, and punching the earned premium in black. For instance, a premium of $15.00 canceled after eight months with a return premium of $5.00 was originally cut:

Cancellation card	Orig. Prem. Canc.	$15.00
	Ret. Prem.	5.00

the difference of $10.00 being earned.

By the new method the original premium of $15.00 is cut in the only section for premiums, in red, and another card is cut showing the earned premiums of $10.00 in black. The balance of— $5.00 with the accounting department, is maintained and correct information regarding the earned premium is secured. The new card embodying this modification is devised for use with complements. It contains all premium information needed for all purposes and has one exposure section of eight columns, and one premium section of eight columns. The premium and cancelation cards are tabulated together producing net figures.

The punching of the additional card for earned premium will make additional punching, it is estimated, of only 10%. The saving effected is a saving not only of the punching of practically an entire set of cards, but also an avoidance of the necessity of constant balancing between the two sets. For a company writing an annual premium volume of from eight to nine million dollars, the use of this specially designed complement card involving only 10% additional punching actually saves:

1. As against the punching of one card with all information, cancelations punched in direct figures:

The separate sorting and tabulating of premiums and cancelations and

The netting of figures in the clerical section, approximately the time of two clerks in the year.

2. As against the punching of two sets of cards, cancelations punched in complements:

The punching and verifying of 90% of the second set of cards, approximately the time of one punch clerk and one verifying clerk in the year, and

The balancing of one set of cards against the other.

3. As against the punching of two sets of cards, cancelations punched in direct figures:

The punching and verifying of the additional 90%.
The netting of figures in the clerical section.
The balancing of one set of cards against the other.

One, at least, of the companies furnishing this machine equipment, is working on the preparation of a card which, of the same size as the 45 column one, is to contain a greater number of columns. Sorter and tabulator will have to be rebuilt to conform with this change. Work is also being done in the direction of direct subtraction on the tabulator but it will probably be years before these innovations are developed and perfected.

In the meantime, on the basis of the saving set forth above, the fire companies (because this method applies to fire insurance as well as to casualty insurance) and the casualty companies combined would have saved in 1925 something between four hundred thousand and a million dollars.

If the practice of setting up the premium reserve, as described by Mr. Tarbell, is in common use, it may be pertinent to describe another method which depends, to be sure, upon the use of complements on punch cards, yet is a cogent argument for their use.

The common practice is to enter the "in force" premiums by class of business on a working sheet and is usually done by hand from the tabulator results. Debits and credits are entered separately and policy year, term, and month and year of expiration are indicated. In addition, a second sheet is used upon which decimal equivalents or fractional equivalents are entered against the "in force" figures. Either on the first sheet, or, as is the practice with some companies, on the second sheet, monthly increments have currently to be added to the cumulative totals as of the end of the previous month. Finally, at stated intervals, a transfer is made from one year's reserve set-up sheets, to a new set of sheets for the coming year. In our company the transfer until this year has been effected annually, and in January, at the very time when the clerical section of the Statistical Department is overwhelmed with pressing work. The alternative plan proposed is as follows:

Let us begin with the end of the year 1926. Premiums in force as of December 31, 1926 are now on the reserve sheets by class of business, policy year, term and expiration. Master cards are cut for the "in force" items as they appear on the sheets showing class of business, policy year, term and expiration. Master cards are cut for the expired items also, these by class of business and policy year only. These master cards are drawn up so that column for column the fields involved coincide with the corresponding fields on the premium cards. Regular premium cards may be used, leaving blank the fields that are not pertinent but in either case the master cards should be a distinctive color. They are also gang-punched to indicate the month to which they are applicable. At the beginning of February, the January premium cards are for reserve purposes sorted in with these master cards and put through the printer, so that the printed sheet, designed to carry the necessary defining columns, bears the net figures as of January 31st, and against these net figures the decimals may be directly applied. The figures are net because the debit premium cards sorted and tabulated with credit cards cut in complements produce a net total.

Once the reserve has been printed, the master cards are sorted out from the January premium cards, which then go through the machines to produce state, agency and other information. The master cards are filed away in a dead file. The process is then repeated. Master cards for January 31st are cut from the printed sheets and balanced to them; the February premium cards are sorted in; the reserve for February 28th is printed. The printed sheets, of the form illustrated below, are filed in a binder, thus constituting a permanent record. So much for the gross premium reserve.

[illegible]

INDEPENDENCE INDEMNITY COMPANY

Sheet No. ________

Class of Business ________

Gross ([illegible]) Premium Reserve

Date as of ________

ONE YEAR AND UNDER									OVER ONE YEAR								
Name of Policy	Expiry		Net Premium		Total Premium		Unearned		Name of Policy	Expiry		Net Premium		Total Premium		Unearned	
	Month	Year	Dollars	Cents	Dollars	Cents	Per cent Remainder	Premium Dollars Only		Month	Year	Dollars	Cents	Dollars	Cents	[illegible]	Premium Dollars Only

The ceded reinsurance reserve is printed in total (not by company) monthly by the same process as that outlined for the gross reserve. On June 30th and December 31st and whenever necessary the reserve by companies is printed directly from the ceded reinsurance premium cards without reference to master cards.

As with every other class of business the compensation figures are run irrespective of state for the reserve calculation. In addition to this, for the current policy year, the reserve information is printed monthly by states and master cards are cut monthly by states so that on December 31st, compensation earned premiums by states will be available.

The expense incurred in this system is the time spent in punching, balancing and sorting the master cards, but this is far outweighed by the time saved in:

1. Printing the reserve instead of tabulating and entering by hand. (The possibility of error in transcription is here avoided.)
2. Adding the current monthly increments and balancing the totals brought forward.
3. Transferring the figures monthly from one set of sheets to another and rebalancing the totals.
4. Transferring the figures annually from one year's sheet to those of the next year.

RETIREMENT SYSTEMS FOR PUBLIC EMPLOYEES IN NEW YORK STATE—RAINARD B. ROBBINS

VOL. XII, PAGE 238

WRITTEN DISCUSSION

MR. GEORGE B. BUCK:

The four retirement systems which Dr. Robbins describes in his paper include the oldest systems in this country operating on a reserve basis.

The New York City Teachers' Retirement System appears to be the first retirement system for public employees in the United States to call for contributions by and in behalf of new members added to the system, which are set by actuarial calculations to provide on a reserve basis during the active service of the teachers the benefits to be paid as the result of the teachers' service. The system was established to replace one which had become insolvent by reason of a failure to observe fundamental actuarial principles, and represented a very considerable forward step on the part of the city.

The city administration in approving the system had to agree to increasing the city's annual contributions nearly six fold. In adopting the new system the teachers were called upon to increase their own contributions nearly three fold. When it is recalled that the benefits provided by the new system are less costly than those promised under the old system, it is not difficult to imagine the tremendous efforts which were required on the part of the Commission on Pensions and certain leaders of the teachers in securing the adoption of the plan by the city, the teachers and the legislature.

The advisory actuarial committee of the Commission, consisting of Mr. William A. Hutcheson, Mr. Robert Henderson and Mr. Henry Moir certainly deserve credit for their unselfish efforts in bringing home to the city authorities and the teachers the value of adopting a plan based on sound actuarial principles. Without a precedent in the country to which to point, it was by the sheer weight of argument alone that they were able to have sound methods followed. It was doubly difficult because the legislature had other plans presented to it with considerable support, and these plans promised not only better benefits but required smaller contributions from both the teachers and the city.

The City of New York was the first organization in this country to establish a pension fund. No public or private organization has an older fund, so that when the reserve system was adopted in 1917, the city departed from the previous practice which had obtained for sixty years, that is, the paying of pensions on the assessment basis or from current receipts.

The actuaries supported the new fund but they did not claim that the benefit or contribution provisions were ideal. They were an improvement over the old provisions; they compared favorably with other plans in existence at that time and certainly the method of financing was a great improvement, although even it was short of what the actuaries really desired. But public retirement systems rarely are the result entirely of expert work, nor do they reflect the opinion or desire of any one person. Probably no fund in this country shows the result of more compromise to opposing groups than the existing New York City teachers' fund, and none has been subject to more public argument and consideration than has this fund. That it has endured the attacks that have been made upon it by those desiring more liberal benefits, that it has survived the efforts of those who would reduce the required contributions, that the law has not received any material change and that after nine years of operation the valuation balance sheet shows the fund to be in a sound financial condition with a slight surplus, and a reserve of over $32,000,000 in cash and investments means that New York is beginning to realize that these funds are important.

The city teachers' retirement system marked a turning point for the State of New York in the matter of pension funds. The funds that followed the New York City teachers' plan all show improvement, both in the method of funding the obligations on a reserve basis and in the care with which the benefits are adjusted to cover the needs of the employee and the government as an employer.

Dr. Robbins has very appropriately called attention to a number of points in the funds which are properly the subject for improvement and directs attention to other points which are of a controversial nature.

The first point to which attention is called is that of optional benefits. For many years pension funds abroad have allowed employees upon retiring to arrange to receive a regular annuity or to use the reserve for the provision of a joint and survivor annuity covering the wife or other beneficiary, or to provide some form of insurance. The New York City teachers' plan was the first in the country to adopt such provisions. Many plans have since adopted the precedent set by New York City but with safeguards which have prevented the tendency which has developed in the New York City teachers' plan where the optional benefit has been turned into an insurance benefit payable on death in active service. Even in the New York City plan the board of retirement has authority to adopt mortality tables which would offset the selection and both the actuary and legal advisor of the system have indicated methods by which the present misuse of the optional benefits can be avoided. So far the city has been willing to appropriate the additional funds to provide the death benefits and the teachers have supported the payments, so that until one or the other objects, the payments are likely to continue.

The discontinuance benefit or what is sometimes called in the older English systems, the compassionate allowance is surely the subject of many controversies. It has been introduced into the systems in the state by amendments of the original laws and it seems a matter of opinion as to whether the systems have been improved or not. In most cases the matter seems to have been decided on the basis of whether the employer is willing to pay the extra cost involved.

Dr. Robbins proposes the funding of the obligations of a retirement system at establishment by having the employer pay on account of each employee a rate according to his attained age and service which will liquidate the entire liability on account of the employee. If this rate be set on a level basis in amount or as a percentage of salary it offers an ideal method of taking care of accrued liabilities. The method has been proposed in connection with a number of plans and was suggested as a method of taking care of liabilities by the special Commission on Pensions in Boston in their report in 1914. The method was also considered at the time the New York systems were proposed.

System B, described by Dr. Robbins, provides that the city shall pay each year for a number of years a level appropriation of six per cent. of the single premiums at the date of entrance on all pensions to those entitled to prior service credit, and then the law provides that this appropriation shall gradually decrease until it finally disappears. In this fund there will be no point where the appropriation will stop abruptly, but it will actually decrease gradually until it disappears. The provision was not written into the later laws because some city financiers consider the method under which payment runs at a level rate for a period of years and then discontinues entirely equally good. They argue that they can arrange their bond maturities or other obligations so that there is no material effect on the tax rate and the latter method gives the government the opportunity of definitely appropriating the difference for other fixed obligations when a substantial reduction is due; whereas, with the decreasing amount the small reduction each year is not enough to use for a financing program, and is likely to be lost in appropriations for current operations. However, Dr. Robbins calls to our attention a matter which should be the subject of careful consideration in establishing any new system.

The question as to what benefits should be included in a retirement system is one that will probably not be answered in this generation. Dr. Robbins seems to suggest that probably the most important is the superannuation benefit, then follows the disability benefit and so on down the line. The actual benefits to be adopted in funds which are organized with proper knowledge of what is involved in including the benefits will probably vary according to the business in which the employees are engaged, and the general attitude of the public toward benefits at the time the system is established. To protect the business, there must be a superannuation benefit to take care of the old employee. Without this benefit the business will surely suffer more than it will from the absence of any other. The need of an old age or service benefit is the one that caused the establishment of most of the existing retirement plans. The next greatest need seems to be for the disability benefit because the disabled employee continues to make his presence felt by both employer and employees, and consequently he can not be discarded.

By a peculiar coincidence, due to the rapid spread of group insurance in the last few years, many industrial employers have failed to give proper attention to the old age and disability benefits because of the attention they have given to the provision of death benefits. For this reason, the provision of a death benefit is not uncommon, and will without doubt receive increasing attention in retirement funds in the future. The passage of workmen's compensation laws has been the cause of many retirement systems including accident benefits as a simple means by which an employer may make provision for such benefits.

And so the benefits are added, as need arises, and we find funds which include sickness benefits because the employer does not have any provision for leave with pay for his employees, and he desires to take care of those who are sick. To answer the question properly the employer must study the question carefully with his employees and if he knows what the benefits are going to cost, if they are included in the system, he can decide whether from his viewpoint or from the employees' viewpoint the money would be well spent for the benefits, or whether the money could be used to better advantage elsewhere.

Dr. Robbins raises a question as to discretionary benefits. In a public retirement system an officer is guided in using his discretion by entirely different considerations from those guiding a private employer, who is increasing or decreasing the actual cost which he must pay. On this account, it has generally been considered advisable to have all of the conditions set forth as definitely as possible in the rules or in the law, so that the service of the employee alone will be the determining factor as to the extent of his benefits in the retirement system.

I think we are all appreciative of Dr. Robbins' paper and to those of us who are keenly interested in pensions and retirement plans, the paper will be especially helpful.

INVESTMENTS FOR CASUALTY COMPANIES—H. A. FORTINGTON

VOL. XII, PAGE 294

WRITTEN DISCUSSION

MR. THOMAS F. TARBELL:

The lack of a fair underwriting profit for the casualty business during recent years has a most important bearing upon the questions of investment returns and investment policies. It is difficult, if not impossible, to forecast or predict underwriting results. Rates for coverages are constantly being forced down. State control of rates is expanding and the situation in compensation insurance is far from satisfactory. In general the outlook for better times in underwriting results is not particularly encouraging. Consequently it is necessary to give most careful consideration to investment returns.

The investment of funds from the standpoint of security of principal should present no very great difficulties. The problem, however, at the present time is two-fold, security of principal and the highest return obtainable without sacrificing such security.

A factor of investment policy that might be given more prominence is marketability. This factor is extremely important in case of fire companies but not of great importance in case of life companies. Casualty companies occupy a middle ground and while the probability of a casualty company having to liquidate any appreciable amount of its security holdings is not great, the possibility of such a situation should not be lost sight of.

United States Government bonds possess the factors of marketability to the highest degree but interest returns are low and, as pointed out by Mr. Fortington, will probably be lower in the future.

The defects of state, county and municipal bonds as investments for casualty companies have been well pointed out.

In case of railroad bonds, my own preference is for those issues having a comparatively short unexpired term. While it seems at the present time that there is very little likelihood of any default on underlying bonds it is well to keep in mind that methods of transportation, both freight and passenger, are in a state of transition and that motor and air transportation are constantly and effectively competing with the railroads, especially those whose traffic is principally of the short haul variety.

Public utility bonds as investments for insurance companies are constantly becoming more prominent. For the reasons stated by Mr. Fortington, and I believe because of the present status of the transportation situation, there appears to be a swing from the railroad bonds to the public utilities. Public utilities occupy a strong position at the present time and there is little hesitation in recommending investments in the best issues.

Most of us will subscribe to what Mr. Fortington has said regarding investment in real estate. The question is one of academic rather than practical interest at the present time as the laws of most states prohibit insurance companies owning real estate except such as is requisite for the convenient transaction of business and such as shall have been acquired through foreclosure of mortgage loans or in satisfaction of debts, etc.

There are certain collateral advantages to a company owning its own home office building such as advertising value and probably more efficient carrying on of its operations. Real estate investment and operation is a business in itself and the average company is not equipped to enter the field from a pure investment standpoint.

In the non-liquid security class, mortgage loans, because of the generally high interest returns hold first place. The successful carrying on of mortgage investment operations, however, requires extensive knowledge of a specialized field and involves too large an overhead for a small company to undertake. A large company should find this a profitable outlet for its surplus investment funds.

A large proportion of the mortgage loans of insurance companies are in farm mortgages but unfavorable conditions in the agricultural industry and over-valuation of property as a result of competition for loans has induced some companies to turn to the city mortgage field. Companies favorably situated may profitably cultivate the local field but in general the city mortgage field should not appeal to casualty companies. The problem of city mortgage investment is entirely different from that of farm mortgage investment. Other things being equal, city property values are influenced by several factors that are not present in farm values. The complexion of a city district may change rapidly from various causes. A high class residential district may become a second rate business or manufacturing district in a short time, a high class business district may deteriorate rapidly. New York City has furnished many examples of such changes. Consequently in passing upon the desirability of a city loan, it is necessary to consider not only the present value of the property but factors which may have a bearing on the value of the property during the period of the loan.

The question of investment in stocks is one on which there is a wide divergence of opinion. Guaranteed and preferred stocks appeal because of the somewhat higher interest return as compared with high grade bonds and the urge for increased interest return has brought them into a more prominent position in the casualty investment field in the past few years. Common stocks as a rule possess the speculative element to such a degree that the small or medium sized company must hesitate to invest any substantial proportion of its assets therein. Many insurance companies have profited during recent years from appreciation in their stock holdings and have been able thereby to offset in whole or in part their underwriting losses. Whether the ultimate effect of this situation is to be beneficial is open to question. Past successes may encourage companies to take too great chances in stock investments and adverse economic conditions bring about a rather serious situation in case of companies who have gone in too heavily on such securities. I would hesitate to subscribe to an investment policy embracing speculative securities. It is true that insurance companies frequently take greater risks in their underwriting than in their investment operations. It is necessary to take the underwriting risks but I see no justification for taking still further risks and thus increasing the chances of failure. Of course the financial condition of a company has a bearing upon this question and no inflexible rule can be laid down. The financial condition of a company, in fact, has an important bearing on its general investment policy.

In judging the desirability of an investment two of the important factors to be considered, as has been previously pointed out, are security of principal and interest or dividend returns. Security of principal in case of government, state, county and municipal securities as a rule require little attention on the part of the prospective investor. In case of other securities, this factor must be carefully weighed. The first consideration is the ranking of the particular security and the value of the assets behind it. In this connection it must be kept in mind that physical assets generally have a much lower conversion value on a liquidation basis than in connection with a going proposition. Railroad property furnishes a good example of this distinction. Interest return in case of fixed return securities requires consideration from the standpoint of security or continuity of interest return. In case of bonds this factor is, as a rule, dependent upon the same conditions as affect security of principal. In case of stocks and debenture bonds there are several additional considerations to be taken into account. We have the record of the past as a guide and this is valuable. Of equal, and in many cases, greater importance, is the question of future prospects. This applies to certain classes of mortgage bonds, such as railroad, public utility and miscellaneous, and to practically all classes of stocks and debenture bonds. Ability to continue to pay interest or dividends depends upon future earning power. Therefore we must consider what is the probable future of the enterprise whose security is under consideration. Is the demand for the product or service likely to continue? Are more efficient methods, means, inventions or discoveries likely to force the corporation into retirement and liquidation? Is there a prospect of adverse legislation affecting the earnings of the issuing corporation? Whoever can answer or guess correctly on these questions will be in a position, other things being equal, to guide his company to a successful investment policy.

Mr. Fortington has furnished us some interesting data and comments relative to the proportions of the various classes of investments held by casualty companies and the trend in investment policies. In order to elaborate somewhat on these matters I have drawn off certain data relative to the investment holdings of nineteen of the largest stock and foreign (United States branches) casualty companies as of December 31, 1921 and December 31, 1925. In selecting the nineteen companies in question I have purposely omitted all companies affiliated with life insurance companies in order to obtain a reflection of the investments and investment trend of independent casualty companies. Some of the companies, however, are affiliated with fire companies.

The following table shows the percentages of the various classes of investments as of the two dates in question together with the increases or decreases in such percentages. Bonds and stocks have been subdivided according to the sub-division required by the present convention annual statement blank.

The percentages shown are based upon book values:

Investment	Per Cent. Dec. 31, 1921	Per Cent. Dec. 31, 1925	Increase or Decrease
Bonds:			
Government	29.83	22.54	−7.29
State, Province, County and Municipal	19.28	16.56	−2.72
Railroad	23.63	25.73	2.10
Public Utilities	3.36	9.00	5.64
Miscellaneous	4.68	5.41	.73
Total Bonds	80.78	79.24	−1.54
Stocks:			
Railroad	2.66	2.19	− .47
Banks & Trust Cos	.68	1.77	1.09
Public Utilities	.27	.67	.40
Miscellaneous	3.93	5.09	1.16
Total Stocks	7.54	9.72	2.18
Mortgage Loans	1.50	2.51	1.01
Collateral Loans	.08	.10	.02
Real Estate	10.10	8.43	−1.67
	100.00	100.00	

The above table although covering only a four year period gives, in my opinion, a fair indication of the general investment trend. The large decrease in the proportion of government bonds is due in part to the fact that during the World War companies bought heavily of the Liberty issues from patriotic motives and now that the market is favorable for disposition the shift to higher income producing securities is going on at a rather rapid rate. Railroad bonds have more than held their own but railroad stocks have lost ground, as would be expected. Public utility securities show a substantial increase as will be noted from the following table showing the percentages of the various subdivisions of bonds and stocks to total bond and stock holdings:

	Per Cent. Dec. 31, 1921	Per Cent. Dec. 31, 1925	Increase or Decrease
Bonds:			
Government	36.93	28.45	−8.48
State, Province, County and Municipal	23.86	20.90	−2.96
Railroad	29.25	32.46	3.21
Public Utility	4.17	11.35	7.18
Miscellaneous	5.79	6.84	1.05
	100.00	100.00	
Stocks:			
Railroad	35.28	22.54	−12.74
Banks & Trust Cos.	9.07	18.22	9.15
Public Utility	3.55	6.89	3.34
Miscellaneous	52.10	52.35	.25
	100.00	100.00	

Mortgage loans investments show a fair gain but at present are not an important factor. Collateral loans are almost negligible. Real estate shows a falling off but forms a larger proportion of the investment holdings than one might off hand estimate in view of the statutory restrictions upon this class of investment.

In my paper "Statutory Requirements for Casualty Companies" in the *Proceedings* of this Society, Volume XII, Page 29, I referred briefly to classes of securities generally specified by the statutes as permissive investments for casualty companies. In general, as indicated therein, the statutes are sufficiently comprehensive to enable a company to pursue a sound investment policy unhampered. One rather important state—Illinois—prohibits investment in national bank stocks and it is well known that this class of security has been a source of considerable profit to some companies in the past few years. Several states prohibit investment in any assessable stock.

The statutory provisions of the various states relative to the proportion of value that may be loaned on mortgage security show a decided lack of uniformity. Twenty-one states specify 50%, three states 60% and thirteen states 66 $^2/_3$%. Companies domiciled in states specifying a maximum of 50% are at a disadvantage in competing for loans against companies domiciled in states specifying 66 $^2/_3$%.

A situation somewhat similar to the foregoing exists in case of collateral loans, the statutory maxima ranging from 80% to 100%, but this is of little importance as such investments are inconsequential at the present time and probably will never prove attractive to casualty companies.

MR. ROBERT K. ORR:

Mr. Fortington's paper is the best article that I have read on this subject and there are some points which are very valuable, especially that in regard to the relation to the Federal Income Tax.

It seems to me, however, that there is one point which might be more fully discussed and that would be the purchase of first mortgages on real estate for western companies. As Mr. Fortington says, there is no speculative profit possible, and he might also add that the occasion might arise when such securities would not be strictly liquid, and for this reason a casualty company should, of course, have a fair amount of bonds.

At present, through most of the Middle Western states there is a large supply of first mortgages bearing interest rates from 5½% to 7% and in some cases even 8%, and of course, a rate of this kind is very attractive in view of the low yield on bonds. Mr. Fortington is entirely right in stating that this is a highly technical business, and this has been emphatically proven by the failure of many western banks which were loaded up with farm mortgages.

A great deal of trouble has been experienced through the western states in connection with farm mortgages. Many loans were made during, and following the World War on highly inflated values, and now that farm values are again back to the pre-war level many bankers have found that their loans are 100% instead of 50%.

In the last two weeks a line of fourteen private banks in Michigan have been placed in the hands of a receiver, and the principle cause of the receivership is over-loans on farm mortgages.

Western companies, I believe, are justly partial to real estate loans on improved urban real estate, however, here again the greatest caution must be exercised and thoroughly competent people must be in charge of the selection of these loans. The greatest danger point is the appraisement, and the difficulties which have been experienced by some of the companies should be a warning and a guide to the purchaser of this class of securities.

The situation has recently arisen in the Middle West in regard to which a note of warning should be sounded. I have reference to first mortgage bonds on apartment houses. It has recently developed that a great many of these bonds are secured by mortgages which are close to 100% of the actual cost of the property. These bonds will of course, be all right so long as there is no industrial depression, but it is more than likely that if production should slow up in the automobile industry, it would not be surprising to find many of the holders of these bonds in the apartment house business.

It would seem that the only safe plan to follow is to be sure that the mortgage does not exceed 50% of the actual cost of the property. It seems that some appraisals have been made on the basis of income, and the safety of such an appraisal should be seriously questioned.

AUTHOR'S REVIEW OF DISCUSSIONS

MR. H. A. FORTINGTON:

1. I have perused the written discussion by Mr. Robert K. Orr with interest and would like to offer the following observations thereon.

With regard to the farm loans in the Western states, the fundamental influence which has worked undoing of farm mortgages has been the declining scale in commodity prices. Farm products have reverted practically to pre-war levels. This factor has in turn influenced the value of land and many equities have been completely wiped out. There is nothing phenomenal in this and probably the same process is at work in the more urban sections but by reason of artificial props, (for example: the intense degree of unionization of labor in the building industry) the decline has been longer delayed. There are, however, signs that indicate a diminution in urban values.

With regard to the loans on apartment houses, many of these have been made for long terms. Fortunately for the lenders there has frequently been a rapid amortization schedule tending to reduce the loan to satisfactory proportions during the high earning power of the property.

There would seem to be no Golden Rule on mortgages. I can conceive of some loans which do not exceed fifty per cent at the time the advance is made ultimately proving very hazardous. The mortgage loan business calls for a very nice blend of judgment and knowledge of values.

2. The observations of Mr. Thomas F. Tarbell interested me very much. I think his conclusions are invariably sound.

Personally, I am not very disturbed as to the fundamental security of the underlying bonds of the prominent railroad systems. Unquestionably the future holds many revolutionary projects in store in the matter of transportation, but I do not think that there is much that can be discovered which will seriously reduce the freight earning power of the American railroads and it is on that earning power that the fundamental security of their bond indebtedness rests. The transportation of passengers is a minor source of revenue. These remarks apply chiefly to the long haul roads. Systems which derive a large proportion of their revenue from short hauls will unquestionably encounter increasing competition from motor trucks.

Public utility bonds insofar as they are secured on the operating properties and not on the securities of holding companies seem in a very sound position.

One more word on the subject of common stocks. The degree of success which will attend any one casualty company's efforts in this investment field rests on management. Most casualty companies hardly seem large enough to justify the expense of a special investigation department which is *sine qua non* of any investment program which includes common stocks as a part of it. It may be that the future holds something by way of co-operation between a few of the companies in this matter, particularly where there is some joint or interlocking ownership of the stocks.

One thing seems certain, namely, that the intensive demand for high grade bonds which the immense business of the life insurance companies in the United States brings in its train will cause far-sighted investors to look further afield for outlets for their capital in an increasing degree.