

**THE TREND OF LIFE INSURANCE
COMPANY EXPENSES**

ARTHUR PEDOE

THE SCOPE OF THE INVESTIGATION

ONE of the effects of the inflation which has occurred in the past few years and of consequence to life insurance companies is increased expenses of operation. The purpose of this paper is to trace the change in company expenses, comparing the six postwar years 1946 to 1951 with the prewar year 1939.

Very little has been published on the subject of comparative life insurance company expenses. The approach in this paper is to follow the precept of the proverb—"Better one picture than ten thousand words!"—by an actuarial proverb—"Better one ratio than ten thousand words!" It is not in a too critical spirit that I comment on the scarcity of figures available indicating costs in the life insurance business.

Although this investigation deals with Canadian companies only, it has a far wider significance which accounts for the term "Canadian" being omitted from the title. In 1951 over one-third of the net new insurance (nongroup) effected by Canadian companies was transacted outside of Canada. Illustrating further the international character of the business transacted by most of the leading Canadian life insurance companies, the following figures show the distribution of the business of the six largest companies included in this investigation among various currencies. They are taken from the 1949 Government of Canada Report of the Superintendent of Insurance:

	Canadian \$	U.S.A. \$	Sterling £	Other Currencies
Insurance Effected (All Classes) . . .	52%	27%	12%	9%
Insurance in Force (All Classes) . . .	55	30	9	6
Liabilities	51	31	13	5

The material on which this investigation is based was first supplied by the companies concerned under the auspices of the Canadian Association of Actuaries in 1950 and has become an annual review of expense trends at the April meeting of the Association. It must be definitely understood

that the author of the paper is solely responsible for the use to which the material supplied him has been put and for all other comments in this paper. The figures were supplied by the twenty largest Canadian life insurance companies, omitting those doing industrial business. With one exception, the twenty companies are licensed by the Canadian Federal authorities; there are, all told, 33 Canadian companies with Federal licenses (December 31, 1951, Report).

The 20 Canadian companies divide themselves into three comparable sets of companies by size. The designation L, M and S may be taken to mean large, medium and smaller size companies, the terms being purely relative. None of these companies has been in business for less than 25 years and the oldest has been in business for over a century. Their size, designated by their net volume of nongroup life insurance in force as at December 31, 1951 (reported government basis) was:

6 companies (L)Over \$850 millions
4 " (M)Over \$390 millions but less than \$725 millions
10 " (S)Less than \$275 millions

These companies supplied their figures as would be reported to the Federal authorities with certain modifications specifically requested to make the figures between companies more comparable. The advantages of adhering closely to reported government figures are that apparent discrepancies can be verified and those completing the schedules required are working with familiar material. The terms used in describing figures throughout this paper are those of the Superintendent of Insurance for Canada in his yearly reports:

"Ordinary" when applied to life insurance and deferred annuities means "nongroup" business.

"Net" means after deduction of reinsurance.

MEASURING EXPENSES

The interest of the author in the subject matter of expenses is of many years' duration and arose not only out of his professional needs to ascertain what life insurance company expenses were in Canada but also to inform students of the Canadian Study Circles on this matter some twenty years ago. In his reports to the Canadian Association of Actuaries the author followed his original procedure, but for the present paper a different procedure has been followed. The results substantiate each other, but the procedures, ratios and tables in this paper should be considered entirely apart from those recorded in the proceedings of the Canadian Association.

Those acquainted with investigations of comparative expenses will ap-

preciate the pitfalls. Companies on investigation prove to be as different as the people who run them. There are innumerable items reported by the companies in the Government Statement which are not strictly comparable as between the companies. One of the most important examples, the item "commission"—one of the largest expense items—is seldom definable to mean the same thing with different companies, owing to the various forms of bonuses, allowances and overridings in the marginal field between commission and general expenses. Branch Office and Head Office Expenses cannot be compared among companies for no two companies have the same distribution of duties between the two. The treatment of staff pensions varies among companies and whilst one company may defer the true cost another will assume the full additional liabilities annually in its expenses. In Canada the Branch Office system is almost universal, but with some companies collection allowances take the place of salaries and overhead costs, thus complicating the setup. In recent years some companies have been compounding renewal commissions by substantial increases in the first year and other early years' commission payments. Thus the meaning of "First Year Commission" has different connotations among different companies. These are just a few of the differences which make difficult any valid comparison of different items of expense costs between companies. However, the *total amount spent*, irrespective of its subdivision, is one concrete fact which the author considers as the main factor in his investigation and on which all his attention has been focused.

Every company has its own individual method of comparing costs of its Branch Offices or General Agencies and it may appear remarkable that, although some of these are in the crudest form conceivable, yet generations pass without major changes being made. Similarly, in spite of the "academic" challenge, some chief office executives still compare their total expenses to their total premium income, although with the advent of group annuity business even this hoary device should be discarded. One warning must be made as to the use of complicated formulas which have also affected the author in the procedures used in the present paper: simplicity will balance many drawbacks in so-called "accuracy." The personal element plays such a vital part in the determination of expense rates that there is a danger of "complicated detail" being confused with "accuracy" and thus the person in charge of the investigation in the company loses his sense of "fitness" or "reasonableness" in the maze of detail presented. Those who have experience in examining the schedules sent in by similar branch offices in a company must be surprised at the wide differences given as to proportion of time spent between new and renewal

business, for example. In adjusting such figures as well as others the personal element comes into play. Further, in apportioning rent of space occupied by agents, cost of advertising and advertising material, salaries, etc., of executive officers, the apportionment between new and renewal is a personal matter and no hard and fast rule can possibly apply to different companies, particularly if they are in different stages of development. Similarly, in determining the proportions of expenses to be allocated by number, sum assured or premium income, the personal element comes into play. Other points will be referred to under specific headings.

Much of the above may be of the nature of stating the obvious, but it is essential in considering the procedures followed in the paper.

ACTUAL VERSUS EXPECTED COSTS

The method used in this paper for comparing costs is to apply certain formulas indicating "expected" costs and commissions to the various items in the published Government Statements of the companies. The total of these gives an "Expected Cost" with which to compare the "Actual Cost." Life Insurance business being indicated by number of policies, sum assured and annual premium income, an "Expected Cost" formula can be applied to some or all of these items; similarly, with Deferred Annuity business and all the items of Single Premium Insurance, Immediate Annuities and Group Insurance, Group Annuities, Total Disability Waiver of Premium and Double Indemnity business. Where the company transacts Sickness and Accident business it has to be treated as a separate class of business by Canadian law and it is assumed that the expenses of such business have been deducted before the figures for the life business are considered. The usual disability and double indemnity benefits attached to life policies are considered as part of the life business.

Commissions

Reference is made above to the differences in company practice in distinguishing between commissions and overhead expenses. From the point of view of costs the name applied to the payment is of little consequence. The Canadian Government Statement still dates from prewar times when group insurances and group annuities were relatively unimportant and the published statement does not separate commissions between group and ordinary business. It is of interest to note how the "expected commission" factors used in this paper compare with the amounts actually recorded. For the years 1947 and 1948 combined, the six L Companies reported total commissions of \$48,125,000 as against \$49,623,000

given by the formulas adopted, or a ratio of actual to expected of 97%. For 1950 the detailed figures for all twenty companies showed actual total commissions reported of \$34,057,000, or 102% of the "expected" commissions of \$33,297,000. In 1951 considerable distortion in the annuity commission earnings ratio of actual to expected was indicated due to abnormal group annuity business which will be referred to later in considering the trends. When an individual company investigates its expenses it is able to analyse the amounts it reports as "commissions," and provided a similar comparable analysis is made each year the commission item can be separated from other expenses. In the investigation for the Canadian Association of Actuaries allowance was made for the divergency in company practice by throwing any excess of first year commission paid over 50% of the first year premiums (Ordinary insurances and Ordinary annuities) into general expenses. In this paper a different procedure is followed and differentiation is made between insurances and annuities.

A uniform expected commission has been applied on all renewal premiums, while in practice there is considerable variation in commissions between the second and other years. It follows that the factor should be repeatedly checked if used over any other than a fairly short period. In Table I the expected commission factors used are outlined. The figures are based on current Canadian practice and results.

Expected Expenses for Group Insurances and Annuities

Group insurance and group annuities are so different in their handling and scale of remuneration from regular insurance that for expense purposes they must be treated as special classes of business. The same applies to single premium business. The expected factors in Table I for these classes are based on a survey of Canadian practice, taking the companies as a whole, irrespective of the age or size or type of the business. The factors vary considerably among companies. It follows that one company which confines itself almost exclusively to small firms and has entered the group annuity business since the war would have an entirely different overhead when considered as a percentage of the premium income obtained as compared with a company which was one of the pioneers in the business and has a considerable number of large and old cases on its books. Also, recent inflation in wages and salaries has meant a considerable accrual to old business with relatively modest acquisition costs which favours some companies unduly in cost comparisons. In thus dealing with business so different in character among different companies, the criterion should be as to what use is made of the results. As will be indicated later, the effect of group business commissions and costs was quite

small on the trend of expenses which is the main purpose of this investigation. Any individual company wishing to compare its own experience with the combined experience shown in this paper can make allowance for the special peculiarities of the company in any particular class of business.

Investment Expenses

There may be a difference of opinion as to whether investment expenses should be considered as an expense incurred through the acquisition of "interest income," as is done in this paper, or whether it is a normal expense of the life insurance business and should be considered as part of the general overhead of the business. In the Canadian Government Statement, with the exception of real estate taxes and expenses which are deducted from rents, the companies are required to indicate their investment expenses but such expenses are included in the general overhead expenses. However, the differences between companies are so marked that I must conclude the practice among companies differs considerably and it would be impracticable to use the actual investment expenses indicated in the Government Reports in this investigation. So long as investment plays such a part in present-day life insurance practice and the benefit accrues to the policyholders, I am of the opinion that such overhead due to investment of the policyholders' funds is a legitimate allowance in the expenses in considering life insurance costs. In seeking a formula which would not be excessive for the companies *as a whole*, I used the time-honoured formula of one-quarter of one percent of the mean net ledger assets for the year (the ledger assets are the investments plus cash). Some companies, particularly those with a very high percentage of real estate mortgages, may claim legitimately that this is inadequate, but such companies can allow for this in comparing their own company's figures with the group.

It is interesting to record the proportion to the mean net ledger assets of the amounts of investment expenses given by the companies in their 1949 Government Statements (the latest available when the investigation was made).

L Companies23%
M Companies24%
S Companies28%
Total Companies24%

Omitting one of the largest companies whose ratio is well below that of the L companies as a whole, the ratio of investment expenses for the other companies taken together would be .26% of the mean net ledger assets. As at December 31, 1949, the percentage of real estate mortgages of all

Canadian Federal licensed companies (30 in number) to total ledger assets was 16.3%, the ratio varying among the 20 companies examined in this paper from 2.72% to 73.74% among the S companies, whilst in the largest of the L companies it was 10.51%.

In my opinion the quarter of one percent is a reasonable and adequate allowance where the proportion of real estate mortgages does not exceed 20% of the ledger assets. As at the end of 1950 the reported figure for the 30 companies had increased to 18.61%. It would be expected that in an inflationary period the cost of handling investments would tend to fall and thus provide an offset to other expenses. Comparisons over a period can only be made by establishing a reasonable allowance and observing how the actual expenses vary from year to year in relation to this expected allowance, assuming, of course, that there is no radical change in the distribution of investments. A more thorough investigation would have made varying allowances for different types of investments as by the formula of the Life Office Management Association Committee (1946), but in my opinion the results of this investigation would not have been affected thereby.

Taxation

In the Canadian Government Statement under the heading of "Taxes, licenses and fees (including taxes on investments but excluding taxes on real estate)" are included minor items such as the income tax paid on shareholders' dividends in a proprietary company and the contribution towards the maintenance of the Federal insurance department apart from the main item, namely, the premium tax. However, Canadian companies doing business abroad are subject to various taxes in these countries of operation. In Canada taxation has remained fairly constant when expressed as a percentage of the insurance premium income (annuity premiums are not taxed) as the following percentages of the ten S companies indicate, taken from the Government statements for the respective years:

1939	1948	1949	1950
2.57%	2.48%	2.44%	2.51%

For the six L companies the figures as reported for this investigation give ratios of 2.82% and 2.94% of "Taxes, etc." to the total revenue premiums received for the years 1950 and 1951 respectively. For 1951 the ten S companies on this basis show a ratio of 2.65%. Although in expense formulas in Canada it was formerly considered that 2% of the insurance premium was adequate for "Taxes, etc." these figures indicate that 2½% for companies confining their business to Canada and a higher percentage

for others would be more appropriate. Here is another difficulty in equitably comparing companies operating in different territories. In 1951 another $\frac{1}{2}\%$ of premiums in taxation for the ten S companies would represent about $1\frac{1}{2}\%$ of their total gross expenses including commissions. An alternative method would have been to omit taxation entirely in this investigation. However, taxation is an expense and it would be a mistake to ignore its increase in an investigation on trends in expenses.

FORMULAS OF EXPECTED COSTS

Having dealt with certain special items it now remains to indicate the assumptions for expected costs for the Ordinary insurances and deferred annuities. In Table I the four formulas used are outlined in detail and it will be noted that special items are treated the same in all four formulas. This also applies to commissions with the important exception that in Formula 2 the commissions for Ordinary insurances and Ordinary deferred annuities are included in the formula and not allowed for separately. A brief reference to the background of each formula follows.

Formula 1

This formula is derived from the results of an investigation made some fifteen years ago by the actuary of one of the largest Canadian companies. The author has accepted it for many years as representative of costs for a large Canadian life insurance company in the nineteen thirties when it was computed. It is based on premiums and sums insured only and it is assumed that taxation is 2% of the premiums and first year's branch manager's overriding is 13% of the first year's insurance premiums. It is extremely doubtful if the company in question would consider that the formula represents its expenses in recent years and further the original formula has been modified and the author takes sole responsibility for the modifications and the use to which the formula has been put in this paper.

Formula 2

On page 166 of the 1947 *Proceedings* of the Life Office Management Association a subcommittee suggested certain formulas for over-all expenses on Ordinary life and annuity business. These have been used in a general way in this investigation but as soon as a formula is removed from its context warnings must be given as to its application to companies operating in a different country and possibly under different conditions. It is just as "a formula" that it is used in this investigation. As regards the L and M companies it appears to be very similar to Formula 1 in its total effect.

TABLE I
EXPENSE FACTOR FORMULAS (INCLUDING TAXATION)

ITEM	EXPENSE FACTORS				COMMISSION
	Formula 1	Formula 2*	Formula 3	Formula 4	Formulas 1, 3 and 4
ORD. INSURANCE					
<i>1st Year</i>					
No. of Policies per policy.....		\$15.00	\$25.00	\$40.00	
Sum Assured per thousand.....	\$9.00	\$10.00	\$ 5.50	\$ 5.50	
Revenue Prem. Inc. percent.....	15%	55%	20%	20%	50%
<i>Renewal</i>					
No. of Pols. i/f end year per policy.....		\$ 1.60	\$ 5.00	\$ 5.00	
Sum Assured " " " per thousand.....	\$2.00	\$ 0.80	\$ 0.45	\$ 0.20	
Revenue Renewal Prem. Inc. percent....	2%	6½%	2%	2%	3½%
ORD. DEFERRED ANNUITIES					
<i>1st Year</i>					
No. of Policies per policy.....		\$15.00	\$25.00	\$30.00	
Sum Assured† per thousand.....	\$6.00		\$ 5.50	\$ 4.00	
Revenue Prem. Inc. percent.....	15%	25%	18%	18%	30%
<i>Renewal</i>					
No. of Pols. i/f end year per policy.....		\$ 1.60	\$ 5.00	\$ 5.00	
Sum Assured " " † per thousand.....	\$0.50		\$ 0.45	\$ 0.20	
Revenue Renewal Prem. Inc. percent....	2%	6½%			2½%
GROUP AND MISCELLANEOUS					All Formulas
					All Formulas
Single Ord. Ins. Premiums percent....	2½%				2½%
" Ord. Annuity Premiums ".....	2 %				2½%
1st Year Group Ins. Premiums ".....	40 %				15 %
Renewal " " " ".....	7½%				2½%
1st Year Group Annuity Premiums percent	15 %				2 %
Renewal " " " ".....	5 %				1½%
Single " " " ".....	2 %				1 %
T.D.W.P. i/f end of year {per thousand	15 cents				
D.I. i/f end of year {basic sum as- sured}	15 cents				
Vested Annuities in Force per policy.....	\$8.00				
Investment Expense Mean Net Ledger Assets.....	.0025				

* Commission included.

† \$1,000 taken as equivalent to \$120.00 annuity per annum.

Formula 3

When this investigation was first reported to the Canadian Association of Actuaries it was desired to apply to the data a formula determined by "cost per policy" and based on Canadian conditions as an alternative to Formula 1 and derived without knowledge of Formula 2. In view of the

TABLE II
RATIOS OF ACTUAL TO EXPECTED EXPENSES BY VARIOUS FORMULAS

Year:	1939	1946	1947	1948	1949	1950	1951
Formula 1							
L Companies. . . .	107%	96%	100%	104%	106%	109%	109%
M Companies. . . .	125	106	113	116	118	120	123
S Companies. . . .	134	115	125	127	130	132	138
Formula 2							
L Companies. . . .	107%	97%	101%	106%	108%	112%	112%
M Companies. . . .	121	103	112	116	119	122	126
S Companies. . . .	122	106	117	121	125	129	135
Formula 3							
L Companies. . . .	94%	86%	90%	95%	97%	101%	101%
M Companies. . . .	103	89	97	102	105	108	112
S Companies. . . .	98	88	97	101	105	109	115
Formula 4							
L Companies. . . .	92%	84%	88%	93%	96%	99%	100%
M Companies. . . .	98	83	93	98	102	106	110
S Companies. . . .	91	81	91	95	101	104	110

postwar inflation then obvious it was considered that Formula 3 represented Canadian conditions in 1948-1949.

Formula 4

As inflation increased in the postwar years the author became more aware of the importance of the "cost per policy" factor in his costing work. Formula 4 is the result of an actual recent investigation into expenses of

a life insurance company operating in Canada; it undoubtedly reflects the personal bias stated.

In passing it should be noted that Ordinary deferred annuity business which was negligible in 1939 and was ignored in the original formula from which Formula 1 was derived has become of increasing importance in postwar years. The different weights given to the business in the four formulas will be noted, but it should be observed here that varying the weights will not change the trends shown in this paper.

RATIOS OF ACTUAL TO EXPECTED EXPENSES

On applying the factors of expenses and commissions in Table I to the total business of each of the three classes of companies and adding the allowances for investment expenses and vested annuities in force the total expected expenses for each class of company for each of the years investigated is obtained. In Table II are shown the ratios of the actual total expenses to these total expected expenses.

Before considering the trend of these ratios one other factor has to be considered. As Table VII indicates, there was a considerable increase in group insurance and annuity business in postwar years, particularly in 1951 for group annuity annual and single premiums; this was mainly among the six L companies. If the weights given to group items in the expected expenses are too generous, a false impression is obtained of the trend of expenses. Solely to determine this point, Formulas 1 and 4 were applied to the L companies but the expected expenses due to group were substantially reduced as follows:

	GROUP INSURANCE		GROUP ANNUITIES		
	1st Year	Re-nwal	1st Year	Re-nwal	Single
In Table I.....	40%	7½%	15%	5%	2%
Adjusted Expense Factors...	30	5	10	3½	1¼

It should not be inferred that the adjusted factors are justified in any way. There are no items where company figures differ more widely than in their estimated group expenses. It is obvious that a reduction in expense allowance will increase the ratios of actual to expected expenses. The reduced group factors when applied to Formulas 1 and 4 give the following

ratios of Actual to Expected Expenses, the comparison being with the unadjusted ratios given in Table II, also for the six L companies.

	1939	1946	1947	1948	1949	1950	1951
<i>Formula 1:</i>							
Unadjusted....	107%	96%	100%	104%	106%	109%	109%
Adjusted.....	108	97	101	105	107	111	111
<i>Formula 4:</i>							
Unadjusted....	92	84	88	93	96	99	100
Adjusted.....	92	84	89	94	97	101	102

THE TREND OF EXPENSES

It will be concluded from a study of Table II that there has been a definite increase in the costs of Canadian life insurance companies in the postwar years 1946-1951. Although the same factors cannot be applied to periods ten years or more apart, it does seem that costs are at present at least as high as in prewar days and on some bases considerably higher—this in spite of the enormous increase in business handled, as Tables VI and VII show. There has been practically no increase in expense ratios from 1950 to 1951 among the six L companies and, even if it be admitted that a large group annuity business in 1951 is a contributing cause, it must be acknowledged that the increase in the postwar years has practically come to a standstill so far as the L companies are concerned. Year 1951 was one during which prices and cost of living increased considerably in Canada as Table V indicates. The ten S companies appear to have had increasing difficulties in keeping costs down in the difficult period of 1951.

RELATIVE SIZE OF POLICIES

There is little uniformity in the Reports of the Superintendent of Insurance regarding the reporting of new sums assured, some companies including family income benefits and others not. In reporting the figures for this investigation the companies were requested to give the *basic* sums assured only—that is, family income and other temporary additions to a basic sum assured were omitted although term insurance is included for the full amount when it is the basic plan. However, the premiums given were the total premiums including the family income benefits and other temporary additions as well as total disability and double indemnity premiums. Table III gives the averages of the new business for the three classes of companies.

Table III would appear to explain the differences in Table II, for the

variations in average size of policy and average premium per policy are substantial. The variations in average premium per thousand are also striking. Anticipating the comment that the differences are entirely due to the large proportion of business done outside Canada by the M and L companies, it may be stated that so far as the figures in government reports can be analysed the relative size of policies as indicated by Table III applies also to business *in Canada*, although the L and S companies

TABLE III

Year:	1939	1946	1947	1948	1949	1950	1951
	Average Net New Insurance Policy Effected						
L Companies. . . .	\$2,423	\$3,310	\$3,507	\$3,693	\$3,906	\$3,942	\$4,130
M Companies. . . .	2,272	2,793	3,066	3,402	3,627	3,801	4,175
S Companies. . . .	1,829	2,285	2,420	2,574	2,815	2,966	3,159
	Average Annual Premium per \$1,000 New Insurance						
L Companies. . . .	\$33.68	\$34.09	\$35.32	\$33.99	\$33.04	\$32.19	\$32.21
M Companies. . . .	28.60	32.25	32.66	32.08	31.00	29.93	29.31
S Companies. . . .	23.25	25.85	25.17	25.15	24.66	24.60	23.63
	Average Annual Premium per Policy Effected						
L Companies. . . .	\$81.60	\$112.84	\$123.87	\$125.51	\$129.05	\$126.89	\$133.04
M Companies. . . .	64.98	90.08	100.15	109.16	112.43	113.76	122.34
S Companies. . . .	42.53	59.06	60.91	64.74	69.42	72.98	74.63

would not be so far apart as the table of total business indicates. The business of the ten S companies is practically confined to Canada.

One point brought out during the discussions of the subject at the Canadian Association of Actuaries was that if in spite of the continuous increase in average size of policy the expense costs per unit still increased, the increase in the cost of handling the older business must be considerably more than that indicated. The cost of handling old business in an inflationary period is one of some consequence to old established companies.

The results of Formula 4 in Table II show the smaller companies in a more favourable light than the other formulas. The averages in Table III show the advantages of the L and M companies regarding size of unit

handled, and from this aspect it would appear that several of the S companies must be fulfilling their economic task as efficiently as some of the M companies, at any rate. There has been much discussion in Canada as to the inroads of term insurance into the business. The trends of premium per thousand in Table III may indicate that such inroads are of greater penetration where S companies are concerned and may be one of the reasons for the unfavourable showing of the S companies with regard to expense ratios in recent years.

THE TEN-TO-ONE BASIS

In Canada, Stone & Cox's Life Insurance Tables still report the expenses of individual companies on the 10 to 1 basis. This assumes that investment expenses and all group expenses are deducted from the total expenses of the company and the balance is called "Ordinary Insurance Expense." The ratio quoted is $100 A/B$ where A is the total Ordinary Insurance Expense and "B is the total of ten times the New Annual Premiums plus the Renewal Premiums plus the Insurance Single Premiums, if any." The continued use of this ratio is tolerated by the Canadian companies on the grounds that there is no acceptable alternative. It is just as a matter of curiosity that the four formulas in Table I have been applied to the average insurance policy figures in Table III and the ratios of first year to renewal expense calculated for each class of company for the three years 1939, 1950 and 1951. The results are given in the second part of Table IV. The constancy of the ratios year by year for some of the formulas is remarkable, considering the change in average policy. It should be noted that investment expenses are excluded. Formulas 3 and 4 show a definitely increasing ratio in recent years as compared with 1939. Formula 4 shows a 12 to 1 ratio. Can expense formulas which give ratios of new to renewal expenses such as 10 to 1 or even higher be justified? Due to inflation there have been demands for increased agency remuneration which increases new business costs. On the other hand, if by improved mechanization and greater efficiency the companies have been able to reduce the unit cost of handling business in force, it would result in a reduced renewal expense ratio and consequently a higher ratio of new to renewal costs. This is a point on which the views of individual companies who have investigated their own expenses would be interesting. As the proportion of new business to renewal business in force is a factor in the relation of new business to renewal costs, these proportions by number, sum assured and revenue premium income for Ordinary insurance business have been computed and are given in the first part of Table IV.

TABLE IV
 PROPORTIONS OF NEW BUSINESS TO RENEWAL
 AND
 RATIOS OF NEW BUSINESS COST TO RENEWAL
 (Ordinary Insurance Only)

Year:	1939			1950			1951		
	By Number of Policies	By Sum Assured	By Premium Income	By Number of Policies	By Sum Assured	By Premium Income	By Number of Policies	By Sum Assured	By Premium Income
L Companies..	7.3%	7.1%	7.4%	7.6%	10.6%	11.9%	7.5%	10.7%	12.0%
M Companies..	10.5%	10.6%	10.8%	8.8%	12.5%	14.1%	8.4%	12.6%	13.9%
S Companies..	11.7%	12.0%	11.2%	9.5%	12.8%	14.3%	9.4%	13.4%	14.3%
Formula 1									
L Companies..	8.0 to 1			7.9 to 1			7.9 to 1		
M Companies..	7.7 " "			7.8 " "			7.8 " "		
S Companies..	7.4 " "			7.5 " "			7.4 " "		
Formula 2									
L Companies..	9.5 to 1			9.6 to 1			9.6 to 1		
M Companies..	9.6 " "			9.6 " "			9.6 " "		
S Companies..	9.7 " "			9.7 " "			9.8 " "		
Formula 3									
L Companies..	9.0 to 1			9.8 to 1			9.9 to 1		
M Companies..	8.6 " "			9.7 " "			9.8 " "		
S Companies..	7.9 " "			8.9 " "			9.0 " "		
Formula 4									
L Companies..	11.1 to 1			11.8 to 1			11.9 to 1		
M Companies..	10.9 " "			11.7 " "			11.8 " "		
S Companies..	10.4 " "			11.2 " "			11.3 " "		

RELATION OF PRICES TO AVERAGE PREMIUM PER POLICY

To conclude the survey of trends it is interesting to compare the average premium per new policy issued over the period of this investigation with the Wholesale Price Index in Canada as indicating how the premium per policy has kept pace with inflationary forces. In Table V these figures are also shown in comparison with the Cost of Living Index.

TABLE V
COMPARISON OF AVERAGE PREMIUM PER POLICY WITH
WHOLESALE PRICE AND COST OF LIVING INDEXES
1939 = 100

Year:	1939	1946	1947	1948	1949	1950	1951
Average Premium per New Policy							
L Companies . . .	100	138	152	154	158	156	163
M Companies . . .	100	139	154	168	173	175	188
S Companies . . .	100	139	143	152	163	172	175
Wholesale Price Index* (Canada)							
	100	144	171	203	208	213	242
Cost of Living Index* (Canada)							
	100	122	133	153	158	164	181

* Dominion Bureau of Statistics (figures for 1951 are approximations only).

It will be noted that although the average premium per new policy has kept pace approximately with the increase in the Cost of Living, yet it is still far short of the increase in the Wholesale Price Index which indicates the full force of inflation. It will be observed that the S and M companies show up better in their increases in average premium per policy over 1939 than the L companies, which appear to have made only slight progress in this important index since 1947 in spite of a generally acknowledged increase in the popularity of Family Income and other term benefits which would tend to increase the premium per policy.

REVIEW OF EXPENSE RATIOS

The main purpose of the paper has been to trace the trend of expenses in the postwar period and to establish its continuous upward trend among

Canadian companies. Another purpose is to draw attention to the subject of expenses which has not received the attention it merits in the pages of the *Transactions*. Acknowledgment should be made of the work done in the field of expenses by the Life Office Management Association and the Life Insurance Agency Management Association, particularly as their aim is what has been stressed throughout this paper, namely, to stress the results of companies' actual operations by means of figures and expense ratios.

The expense ratio is just one factor of a company's operations. That one company on a certain basis shows a lower expense ratio than another company does not indicate positively that the first company is operating more efficiently than the other. It certainly is no indication of more profitable operations. Hence the objection to the publication of expense ratios of individual companies. New business expenses are comparable to the capital expenditures by a manufacturing concern. In the very nature of life insurance the first year costs must be spread, to a great extent, over the premium-paying period of the policy. Further, with a life insurance company as with a manufacturing concern the justification for capital expenditure is the use to which the equipment is put. Expenses must be judged in relation to (1) the loadings included in the premiums for expenses; (2) the contribution of the business obtained to the surplus earning power of the company as regards mortality and interest; (3) the contribution of the business obtained to the miscellaneous sources of profit and loss, as by cash values on surrender, settlement options, etc. In other words, the expense ratios must be considered as part of all the factors termed "good housekeeping," both actuarial and managerial if the operation of a company be considered as divided between these two spheres.

The above remarks are not intended to support any *laissez-faire* attitude. There is hardly any aspect of business which lends itself so readily to self-deception as the estimation of the expenses of a life insurance company and their regulation. If this paper should stimulate companies, the smaller ones particularly, to obtain a formula indicating their expenses and to trace the variation in their expenses by some means as illustrated herein, then it will have justified its preparation.

MEASUREMENT OF INTERIM PROGRESS

The method used in this paper can be adapted to measure the trend of expenses of a life insurance company, month by month, during the year. As a supplement to or as an alternative to "Budgeting," the progress during the year can be measured as a ratio of Actual to Expected.

TABLE VI
TOTAL BUSINESS OF TWENTY COMPANIES
ORDINARY BUSINESS ONLY
ALL AMOUNTS "NET" AND IN THOUSANDS

Item	1939	1946	1948	1950	1951
ORD. INSURANCE					
<i>1st Year</i>					
No. of Policies.....	208	381	349	328	332
Sum Assured.....	\$ 482,345	\$1,157,391	\$1,210,105	\$ 1,236,250	\$ 1,327,959
Revenue Prem. Inc.....	\$ 15,284	\$ 37,909	\$ 39,502	\$ 38,185	\$ 40,684
<i>Renewal</i>					
No. of Pols. i/f end year	2,552	3,465	3,828	4,095	4,220
Sum Assured i/f end year.....	\$6,080,324	\$8,562,640	\$9,969,631	\$11,076,698	\$11,765,682
Revenue Prem. Inc.....	\$ 191,778	\$ 244,412	\$ 281,995	\$ 307,368	\$ 322,709
ORD. DEFERRED ANNUITIES					
<i>1st Year</i>					
No. of Policies.....	7.7	14.5	14.2	13.0	12.2
Sum Assured*.....	\$ 27,395	\$ 75,603	\$ 62,717	\$ 57,289	\$ 56,303
Revenue Prem. Inc.....	\$ 1,209	\$ 3,689	\$ 3,423	\$ 3,230	\$ 2,857
<i>Renewal</i>					
No. of Pols. i/f end year	56	91	104	114	116
Sum Assured* i/f end year.....	\$ 203,343	\$ 379,883	\$ 432,717	\$ 462,797	\$ 470,753
Revenue Prem. Inc.....	\$ 8,249	\$ 15,904	\$ 18,356	\$ 20,075	\$ 21,005
SINGLE PREMIUMS					
Ord. Ins. Prems.....	\$ 12,052	\$ 10,691	\$ 10,895	\$ 9,266	\$ 8,579
Ord. Annuity Prems.....	\$ 17,245	\$ 44,433	\$ 21,338	\$ 19,073	\$ 19,460
Vested Annuities i/f end year.....	43	47	49	49	49†

* \$1,000 = \$120 per annum.

† Estimated.

TABLE VII
TOTAL BUSINESS OF TWENTY COMPANIES
GROUP PREMIUM INCOME
ALL AMOUNTS "NET" AND IN THOUSANDS

YEAR	GROUP INSURANCE		GROUP ANNUITIES		
	1st Year	Renewal	1st Year	Renewal	Single
1939.....	\$ 335	\$ 8,275	\$ 782	\$ 3,201	\$ 434
1946.....	650	13,016	1,549	11,580	7,073
1947.....	1,249	14,644	1,614	13,726	1,558
1948.....	1,114	16,447	1,689	17,153	3,652
1949.....	2,107	18,259	2,078	21,314	2,120
1950.....	2,006	20,359	3,277	24,059	3,111
1951.....	2,797	22,922	6,422	30,021	19,074

THE GENERAL TREND OF BUSINESS IN CANADA

The figures gathered together for this investigation give a valuable picture of trends of the business of the Canadian life insurance companies. It must be emphasized that the figures concern the business of the 20 Canadian life insurance companies in the investigation, omitting three industrial-ordinary companies (one Canadian and two U.S.) which do a considerable business in Canada.

In Table VI the details of the Ordinary business are given for selected years. In Table VII the Group premiums are given for each year. In Ordinary business these twenty companies entered the postwar years doing between two and three times the business of prewar years. However, the trend of volume of new business by premium income has not been consistently upwards where Ordinary business is concerned. A comparison with the upward climb of new group premium income, both insurance and annuities, in Table VII is illuminating. It follows that a more accurate measurement of group costs is becoming more pressing as this phase of business increases in importance. Will group insurance and annuity business dominate the life business in the future?