



THE BOARD OF PENSIONS
OF THE PRESBYTERIAN CHURCH (U.S.A.)

*Financial
Soundness
of the Pension Plan
of the Presbyterian
Church (U.S.A.)*

Dr. Dan M. McGill

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About the Author Dr. Dan M. McGill

Dr. McGill has been associated with the Board of Pensions for thirty years. In 1973-74 he chaired the consulting committee on pensions of the United Presbyterian Church in the United States of America, which recommended to the 186th General Assembly twenty-eight changes in the Pension Plan, all of which were approved by the Assembly. In 1975 he was elected to the Board of Pensions by the 187th General Assembly and two years later the Board elected him to the Chairmanship. He served as Chairman until 1987, having in the meantime served as Co-Chairman of the joint committee of the Board of Pensions and the Board of Annuities and Relief that developed a new plan (the current one) for the reunited Church. He served as the first chairman of the Board for the new Plan, rotating off in 1988. At that time, he was asked to serve as consultant to the Board to provide institutional memory and professional advice, a niche that he continues to fill.

A native of Tennessee, Dr. McGill was on the faculty of the Wharton School of the University of Pennsylvania for forty years, having received his Ph.D. degree there, following degrees from Maryville College and Vanderbilt University and four years of military service. In addition to serving as professor and chairman of insurance, Dr. McGill founded and directed the Pension Research Council, which published 30 books on the subject of pensions under his tenure.



He was also Executive Director of the S.S. Huebner Foundation for Insurance Education for 30 years and Chairman of the Governing Board of the Leonard Davis Institute of Health Economics for 22 years, having served in that capacity from its inception. He is the sole author of eight books, co-author of five others, and editor of eight. Six of his books deal with pensions. His *Fundamentals of Private Pensions*, now in its seventh edition, has been the standard text and reference book on the subject since its publication in 1955.

Dr. McGill is an elder in the Bryn Mawr Presbyterian Church, a 3,500 member congregation in suburban Philadelphia. He has been a member of its session, its Board of Trustees, and the Board of the Bryn Mawr Presbyterian Church Foundation. He is currently on the Personnel Committee of his church, having served in that capacity for the last 27 years.

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Grateful acknowledgment is made of the assistance of the senior staff of the Board of Pensions in the preparation of this paper. Special recognition and thanks are due Dr. James C. Hickman, a former Board member and still a co-opted member of the Board, who reviewed the entire paper for factual and technical accuracy and wrote the first draft of the section on the Asset-Liability Studies, in which he played a major role. An internationally acclaimed actuary, Dr. Hickman had a long and distinguished academic career, ending with the Deanship of the School of Commerce of the University of Wisconsin at Madison.

I. Antecedents of the Plan

There is an unbroken—but sometimes tenuous—link between the Fund for Pious Uses, established in 1717, and the current Pension Plan of the Presbyterian Church (U.S.A.). Thus, in one sense it can be said that the Plan dates back to 1717. Yet most of the Plan’s antecedents operated on a needs and benevolence basis with none of the earmarks and actuarial foundation of the current Pension Plan.

The informal basis of assistance to needy ministers, missionaries, and their families was given more structure in 1870 with the creation of the Board of Ministerial Relief. This entity was to provide relief to disabled ministers and the widows and children of deceased ministers. It was made a separate Board of the Church in 1876 and incorporated as a Pennsylvania not-for-profit corporation, within whose framework the current Pension Plan operates. The awards of the Board were regarded as charity and were generally shunned.

In order to remove the “taint of pauperism” from the approach taken by the Church in 1870, the General Assembly of 1902 approved the creation of a Sustentation Fund and appointed a committee to work out the details. George Huggins, a young actuary at a Philadelphia life insurance company, provided actuarial guidance to the committee. Formally chartered in 1909 at a time when the average ministerial salary was \$600, the Fund “promised” an automatic pension of \$500 per year payable at age 70 for ministers with 30 or more years of service in the denomination,

whether retired or not. The pension was regarded as a supplement to the minister’s salary, which was probably inadequate at that point since there was a tendency to replace ministers around age 50 with younger ministers, the older ones going to smaller churches that paid meager salaries. Payment of the same pension for all was described—and defended—as “democratic Presbyterianism” and “ministerial parity.” The minister contributed a periodic sum, dependent upon age of entry into the plan, equal to one-fifth of the projected cost of the \$500 annual benefit. The portion of the benefit provided by that contribution was the only amount “guaranteed.” Four-fifths of the projected cost was to come from benevolences, the Church assuming a binding obligation to raise that money. The Fund became the model for other Protestant denominations and led the Protestant Episcopal Church in 1917 to establish a pension plan with actuarially computed reserves and benefits based on salary and years of service, and payable at age 68. It was the first denominational pension plan.¹

Strangely, the Board of Ministerial Relief continued in existence and competed with the Sustentation Fund in raising money, each canvassing the country and even hiring paid fund-raisers. This led to various proposals to merge the two organizations, first by “federating” them and then corporately merging them into one, which finally occurred as a result of action taken at the 1918 General Assembly.

¹ *The Scottish Ministers' Widows' Fund is said to be the world's first actuarially-based fund. It was approved by the General Assembly in 1743 and went into effect in 1744 as the result of an act of Parliament. The principal benefits are life annuities to the widows of Scottish ministers. The Fund, with suitable revisions, continues to operate to provide income benefits to widows and fatherless children of ministers of the Church of Scotland and the Free Church of Scotland.*

The merged organizations were thereafter to be known as the Board of Ministerial Relief and Sustentation. The merger did not solve the financial problems that led to the merger; and in 1923 the Board, broadly supported by overtures, sought the help of the General Assembly of that year in raising money for the respective endowments of the two predecessor bodies and the “reserves” of the Sustentation Fund. The Assembly responded by appointing the Laymen’s Committee, which was chaired by Will Hays, then “Czar” of the motion picture industry and earlier Postmaster General in the Harding administration, and included such luminaries as Richard Mellon, Fred Weyerhaeuser, and Senator William B. McKinley.

In the course of its work, the Committee came to the conclusion that the existing approach to providing old age financial security to the servants of the Church was inadequate and set about to develop a true pension plan with a sound actuarial and financial basis. The plan that emerged, with the actuarial guidance of George Huggins, was patterned after the Episcopal Plan, which had been inspired by the flawed Sustentation Fund Plan.

The Plan provided a benefit at age 70 (lowered to 65 in 1937), whether or not retired based on the member’s average salary and years of service. A minimum benefit of \$600 per year was to be provided for 35 or more years of service. The Plan was to be financed by contributions of 10 percent of compensation, the member to pay one-fourth of that amount, or two and a half percent of salary. The new Plan

was approved by the 1924 General Assembly, to be administered by a new entity called the Board of Pensions of the Presbyterian Church. A well-organized campaign to enroll ministers in the Plan was initiated, but the Plan was not to become operational until a sum of \$15 million could be raised to meet the start-up costs and accrued liabilities of the Plan. The Laymen’s Committee took on the task of raising that sum (\$150 million in today’s dollars). At the 1927 General Assembly, Will Hays announced to tumultuous applause that the goal had been met. The Plan became operational in that year, making it the second oldest denominational pension plan in the country. This was the real beginning of a rationally designed and actuarially anchored pension plan for Presbyterian ministers and their families.

Poor investment experience during the 1930’s (real estate mortgages and railroad bonds) and a \$2 million shortfall in the collection of pledges toward the \$15 million goal required a one percent of compensation increase in dues in 1942. From 1940-48 the Plan operated under the scrutiny of a succession of General Assembly committees. The Plan came under professional management in 1946 with the hiring of Dr. Donald L. Hibbard, the first non-minister C.E.O. Dr. Hibbard, who served until 1972, was a Ph.D. in mathematics from MIT, vice president and actuary of Aetna Life Insurance Company, and President of Parsons College—among other distinctions.

In 1958, the Presbyterian Church in the United States of America merged with the

United Presbyterian Church of North America, the combined bodies becoming known as the United Presbyterian Church in the United States of America. The Pension Plan of the Presbyterian Church in the United States of America was continued, with the members of the smaller plan of the other Church being brought into the continuing plan for future service benefit accruals.

In the Southern stream, the Presbyterian Church in the United States (PCUS) also had a long struggle in getting a soundly structured pension plan for its ministers and employees. From 1865 to 1919 there was complete dependence on the relief concept, with heavy emphasis on self-reliance. Following the devastation and disruptions of the Civil War, relief efforts were pitifully inadequate. Some people opposed the accumulation of an endowment fund for relief purposes on the grounds that it might deprive future generations of the privilege of supporting those in need at that time. There was much opposition to any arrangement, such as annuities, that resembled life insurance, which was widely viewed as “gambling on lives.” In 1919, Henry H. Sweets, pastor of a Louisville church, began an aggressive campaign for a formal, contributory pension plan. It took 21 years to gain sufficient support for such a plan and to raise the money to start it. The 1940 General Assembly established the Ministers Annuity Fund (MAF), the administering body to be the Board of Annuities and Relief. Eighteen years later, a plan was established for lay employees of the Church, the Employees Annuity Fund (EAF).

The United Presbyterian Church in the United States of America and the Presbyterian Church in the United States, often referred to as the Northern and Southern streams of the Presbyterian Church, reunited in 1983. Under the Articles of Agreement that governed the reunion, the boards of the former churches continued to function under their charters and with their pension plans until a new unified benefits plan was approved by the General Assembly of the reunited church. The two pension boards worked diligently for three years and presented the new Benefits Plan of the Presbyterian Church (U.S.A.), which was approved by the General Assembly in 1986 and became effective on January 1, 1987. The three existing pension plans were terminated and the new Plan assumed all of the accrued liabilities and took title to all of the assets. All members of the existing plans automatically became members of the new Plan.

II. Basic Design of the Present Plan

A. *Overriding Objectives*

The design of the present plan reflects three overriding objectives: adequacy of retirement income; protection of retirement income against loss of purchasing power from inflation; and fulfillment of benefit promises.

1. **Adequacy of Retirement Income.** The Plan is designed to provide a benefit for a career servant of the Church that, supplemented by Social Security, will enable the retired person to live in dignity and with a life style suited to the person's station in the community. This goal is commonly described somewhat more precisely as one enabling the retired person (and spouse,

if any) to enjoy a standard of living in retirement roughly comparable to the person's standard of living during the years immediately preceding retirement. The comparison is frequently made in terms of pre-retirement and post-retirement disposable income. A simpler, but still reasonably accurate test of how well the goal is being met, is to compare the retiring person's combined benefit (Social Security plus the Plan benefit) with his/her compensation at point of retirement. This comparison is known as the "Replacement Ratio." At most income levels a combined retirement income equal to 70 to 80 percent of the person's final compensation would satisfy the Plan's income objective.

2. **Protection of Retirement Income Against Inflation.** Social Security benefits are indexed to increases in the Consumer Price Index (CPI), thus providing that component of retirement income protection against inflation. The overwhelming majority of corporate pension plans do not undertake to protect their employees' retirement benefits against inflation, except for occasional ad hoc adjustments in recognition of post-retirement inflation. The PCUSA Plan does have a mechanism for protecting benefits against inflation, the process called "experience apportionments," which is described later.
3. **Fulfillment of Benefit Promises.** The benefit promises of the Plan are of little avail if there are not in place, legal, actuarial, and financial processes to assure payment of those benefits. The essence of these processes is the accumulation of an adequate quantity of assets, legally sepa-

rated from the other agencies of the Church, prudently invested, and administered for the sole and exclusive benefit of the Plan members and their families. They involve actuarial assumptions, funding, investment policies, and the holding of contingency reserves, all of which are discussed below.

B. Major Design Features

1. **Defined Benefit Plan.** The Plan is of the generic type known as a defined benefit plan, meaning that the Plan promises a definitely determinable benefit to a member upon retirement, the method of determining the benefit being specified in the plan document.

This is to be contrasted with a defined contribution plan under which the employing organization promises to contribute a specified or determinable amount of money to each member's individual account, with the benefit at retirement being determined by the accumulated balance in the account. The account balance is determined not only by the contributions to it (which may include member contributions) but also by the investment returns credited to it. The plan members bear all the investment risks, enjoying the results of favorable investment performance and suffering the pain of poor performance. With a defined benefit plan, the accrued benefit accumulations are fixed and known at any point in time but the future cost to the employing agency (and the member, if the plan is contributory) is indeterminate and, hence, unknown. In contrast, with a defined contribution plan, the future cost to the employer is known or determinable but

the member's benefit at retirement is unknown, being largely dependent on future investment results. Today, the most common defined contribution plans are called 401(k) plans for the section of the Internal Revenue Code that authorizes them.

The "defined" benefit of the PCUSA Plan is an annual benefit (payable monthly) at age 65 of one and a quarter percent of effective compensation, as defined, for each year of membership service. An unusual, if not unique, feature of the Plan is that if the effective annual salary of the member is less than the Church-wide median effective salary for his/her employment classification, the annual benefit accrual is one and a quarter percent of the median effective salary for that group. In effect, half of the members of each effective salary classification accrue benefits on an effective salary base greater than their actual compensation. Effective salary includes cash salary plus certain other benefits provided by the employer. Use of the median effective salary in this manner is a step in the direction of assuring a reasonably adequate retirement income for all career servants of the Church, irrespective of their compensation during their active years, as well as a step in the direction of meeting the concerns of those who advocate equal retirement benefits for all.

Another unusual and attractive feature of the benefit formula is that the normal annuity form is a joint and one-half survivor annuity. This means that the surviving spouse of a deceased retired member automatically, and at no cost to the mem-

ber, receives one-half of the member's pension as long as she/he lives. This is a payment option required in plans subject to the Employee Retirement Income Security Act (ERISA), which was enacted in 1974 and is the statutory basis for most federal regulation of corporate defined benefit plans. The joint and survivor option required by ERISA comes, in most corporate plans, at the expense of a reduction in the pension benefit payable while the member and spouse are both alive.

Finally, it is significant that the benefit formula is not explicitly integrated with Social Security, meaning that it is not adjusted in any way in recognition of Social Security benefits payable to the member, spouse, or dependents. The Plan benefit is payable in addition to the Social Security benefits, which, as indicated above, should be combined to arrive at a judgment as to the adequacy of the member's retirement income. It might be argued that the Plan is implicitly integrated with Social Security in that the annual percentage of compensation benefit accrual is somewhat smaller, than it would have been with a direct reduction in the pension income related to Social Security benefits.

2. **Career Average Benefit Formula.** The benefit credited for any particular year is computed in terms of the member's effective salary (or the relevant median effective salary) for that year. This is known in pension parlance as a "career average" formula, since the ultimate benefit reflects the member's average salary (or, in this case, possibly the average median effective salary) during his/her entire period of active service. This is in contrast to a

“final average” salary formula that expresses the annual benefit accrual as a percentage of the member’s average annual salary during the last few years before retirement, such as the last five or last three years. The virtue of the final average type of benefit formula is that at point of a member’s retirement, the benefit reflects the inflation and real wage gains (productivity) that accrued during the member’s years of service and thus starts the retiring member off with a realistic benefit.

Because of this characteristic, most defined benefit plans employ a final average formula. Why, it might be asked, does the PCUSA Pension Plan, and some other denominational plans, use a career average formula? The answer lies in the fact that each local congregation sets the compensation of its pastor or pastors. If a final average formula were used, each congregation could determine the pension of its pastor by setting his/her salary at the desired level for the last few years of service. If all local churches did this, the cost of the Plan would get out of control and the Board of Pensions would have no way of reliably projecting the cost of the Plan and recommending an adequate level of dues. How the Plan offsets the inherent weakness of a career average in an inflationary economy is described later.

3. Enhancement of Benefits Through Periodic Experience Apportionments.

One of the most unusual and valuable features of the existing Plan, which was carried over from the three plans that it replaced, is the so-called experience apportionment mechanism. The underlying concept of the experience apportionment is that actuarial gains flowing from

Plan experience more favorable than that assumed in the actuarial projections should be used to provide additional pension credits for active members of the Plan and increases in the benefit payments of retired members. An alternative use of actuarial gains, which is common in corporate pension plans, is to use them to reduce the employer’s contributions to the plan. The effect of experience apportionments is, first, to convert career average benefit accruals into a composite benefit roughly equal to a final average benefit; and, secondly, to protect the benefits of retired members against loss of purchasing power from inflation.

For many years after the inauguration of the so-called Service Pension Plan in 1927, inflation was not a concern. The 1930’s were a period of declining prices, followed by stable prices. Prices were frozen during World War II but rose in the immediate post-war years. The 1950’s saw remarkably stable prices, especially after termination of the Korean Conflict. However, by the late 1950’s, pensioners were complaining about the rising cost of living, and the administrators of the pension plans of both the Northern and Southern branches of the Church began to consider the desirability and feasibility of using the accumulated actuarial gains of the plans to increase benefits. At that time any such distributions were being described as “dividends,” being analogized to distributions of surplus to participating policies of mutual life insurance companies. There was a concern that the crediting of additional benefits would violate the terms of the plans, specifically the benefit formula. To alleviate that concern,

both sets of plan administrators sought and received approval of their respective 1959 General Assemblies to amend their plans to periodically distribute their excess funds in the form of fully funded increments for both active and retired members. Later, terminated vested members were included in the distribution.*

The plan of the UPCUSA referred to these distributions as “special experience apportionments” while the PCUS plans called them “good experience credits.” Each distribution was to be approved by the General Assembly. Interestingly, no distributions were made until 1964.

Several observations about the experience apportionment mechanism are pertinent. The Plan refers to the source of the distributions as “actuarial gains,” but the gains are derived almost entirely from investment returns in excess of the interest rate assumed in the actuarial valuation of the Plan. This rate is known as the valuation interest rate. That rate was two and one half percent when experience apportionments were initiated in 1964. With a fixed rate of dues and an interest assumption of only two and one half percent, it was almost inevitable that actuarial gains would emerge and accumulate. Now, with a valuation rate of 4¹/₂ percent (plus ¹/₂ percent for expenses) and highly unpredictable capital markets, it may be more difficult to generate future actuarial gains from investment operations.

Secondly, the experience apportionments are credited to both active and retired members. This is crucial to transforming career average benefit accruals into final average benefits at retirement, thus help-

ing to produce an acceptable replacement ratio. This function is frequently, if not usually, overlooked in discussions of experience apportionments. It is important to note that each experience apportionment updates the cumulative benefit accruals, producing a compounding effect.

Thirdly, each experience apportionment declaration creates an irreversible incremental layer of actuarial liabilities. Whatever portion of the contingency reserve that is drawn down for an experience apportionment is gone forever from the contingency reserve. It has become a permanent component of the actuarial liabilities that must be met eventually. Moreover, each subsequent experience apportionment compounds the effect.

Finally, experience apportionments are wholly discretionary. The Board of Pensions does not promise benefit enhancements through future experience apportionments. It has to honor benefit entitlements created by past experience apportionments but it is under no legal obligation to declare a future experience apportionment, irrespective of the size of the contingency reserve or any other factor that might argue for an experience apportionment. This segment of the liability structure of the Plan is under the complete control of the Board.

The experience apportionment mechanism has been very effective in achieving its joint goals. With respect to protecting the purchasing power of benefits in payment status, it has been phenomenally successful for living members of all retirement cohorts since the mechanism was

* Currently terminated vested members participate in apportionments only if they were age 55 or older at time of termination.

activated in 1964.

Those retiring in 1964 and still alive today have seen their beginning benefits increase by 781.2 percent on a compounded basis, while the CPI increased by only 485.0 percent since that time. Members retiring in 1980 who are still alive have enjoyed a 418.2 percent increase in their benefits, while the CPI has increased only 135.5 percent. All members retiring since the present plan went into effect have even greater disparities, percentage-wise, between their benefit increases and CPI increases. This reflects a combination of sizeable annual (except for 1991 and 2002) experience apportionments, fueled by extraordinary investment results, and a lowered rate of inflation. Whenever benefit increases exceed CPI increases, retired members have not only had their benefits fully protected against inflation but have enjoyed an increase in real terms in their standard of living. In other words, they have shared in the productivity gains of the economy since their retirement. Some would argue that this is a desirable goal of a pension plan. If so, very few achieve that goal.

Unfortunately, the deceased members of many cohorts of members retiring after 1964 suffered a decline in their real (price level adjusted) income for several years. It took many years for their benefits to reach parity with CPI increases, much less enjoy real gains. This was because experience apportionments were so infrequent, even in the face of double-digit inflation. The Northern plan granted only six experience apportionments between 1964 and 1982; the Southern plan had 11, since it had a philosophy of distributing most of its actuarial gains currently.

TABLE I

*Historical Record of Experience Apportionments of the PCUSA Pension Plan
and the Compounded Effect of Apportionments and CPI Increases²*

Year	Apportionments			CPI		
	Annual Increase	Increase Through 12/31/2002		Annual Increase	Increase Through 12/31/2002	
		Compound	Annualized		Compound	Annualized
1988	5.0%	137.9%	5.9%	4.4%	56.7%	3.0%
1989	7.0%	126.6%	6.0%	4.6%	50.1%	2.9%
1990	8.0%	111.1%	5.9%	6.1%	43.5%	2.8%
1991	0.0%	96.1%	5.8%	3.1%	35.3%	2.5%
1992	8.0%	96.1%	6.3%	2.9%	31.2%	2.5%
1993	4.0%	81.6%	6.1%	2.7%	27.5%	2.5%
1994	8.0%	74.6%	6.4%	2.7%	24.1%	2.4%
1995	3.0%	61.6%	6.2%	2.5%	20.9%	2.4%
1996	8.0%	56.9%	6.6%	3.3%	17.9%	2.4%
1997	6.0%	45.3%	6.4%	1.7%	14.2%	2.2%
1998	11.0%	37.1%	6.5%	1.6%	12.2%	2.3%
1999	10.0%	23.5%	5.4%	2.7%	10.5%	2.5%
2000	9.0%	12.3%	3.9%	3.4%	7.6%	2.5%
2001	3.0%	3.0%	1.5%	1.6%	4.0%	2.0%
2002	0.0%	0.0%	0.0%	2.4%	2.4%	2.4%

the 1998 experience apportionment was 11.0 percent, while the CPI increased by only 1.6

The experience apportionments that have been granted since the Plan for the reunited Church was established and their cumulative impact on benefits in pay status versus the compounded CPI increases are shown in Table I. It will be noted that through 2002 experience apportionments were granted in every year except 1991 and 2002. In years it was granted, the experience apportionment exceeded the CPI increase, in most years by a wide margin. For example,

TABLE II*Replacement Ratios for Various Salary Groupings at Retirement for the Year 2002³*

Salary at Retirement	Number of 2002 Retirees	Average Plan Pension	Social Security Benefits	Total Retirement Income	Total Retirement Income as % of Final
Less Than \$30,000	22	\$22,589	\$9,766	\$32,355	161%
30,000-34,999	19	22,479	13,340	35,819	112
35,000-39,999	17	24,384	13,089	37,474	100
40,000-44,999	15	25,798	14,879	40,677	96
45,000-49,999	13	30,230	15,185	45,415	94
50,000-54,999	17	31,909	16,435	48,344	91
55,000-59,999	13	32,128	17,408	49,536	87
60,000-64,999	12	35,478	16,987	52,465	85
65,000-69,999	7	39,541	17,372	56,913	85
70,000-74,999	3	35,103	16,257	51,359	70
75,000 and Over	13	49,957	19,593	69,549	79
Whole Group	151	30,039	14,874	44,914	95

³ The table shows information for ordained minister members retiring at or after age 65 with 15 years or more service.

percent. The comparable figures for 1999 were 10.0 percent and 2.7 percent, respectively. For the entire period, the experience apportionments, compounded, accumulated to 137.9 percent, whereas the compounded increases in the CPI amounted to only 56.7 percent.

The effectiveness of the experience apportionment mechanism, in combination with the median salary boost for half of the members in meeting the goal of an adequate income at point of retirement, can be measured in terms of the salary replacement ratio. The ratio for members who retired in 2002 is shown in Table II.

² A historical record of the experience apportionments of the UPCUSA, PCUS-MAF, and PCUSA Pension plans, back to their inception in 1964, with related CPI increases, is shown in appendix A.

It will be noted that at the lower levels of earnings the combined retirement income exceeds the final compensation of the individuals involved, even greatly at the lowest levels. This reflects three forces: (a) weighting of the Social Security formula in favor of low income individuals, (b) the median effective salary benefit computation, and (c) enhancement of benefit accruals through experience apportionments, especially the generous ones of the 1990's. The replacement ratios are eminently satisfactory at all levels of income, exceeding the goal at all levels except the very highest. All levels reflected the beneficent effect of experience apportionments.

* See next paragraph.

III. Funding Policy

A. Defined Benefit Plans Generally

As indicated earlier, defined benefit plans hold out the promise of a definitely determinable benefit at retirement to those employees who remain in service to that point and satisfy all other requirements. This promise may be made to an employee as young as twenty-one, or even younger, who might live to one hundred or more. This is a span of at least eighty years. If the plan continues in operation, other young employees will enter the workforce, further extending the potential span of the employer's promise to its employees. These are legally enforceable obligations and the plan sponsor must make adequate financial arrangements to meet them. It can no longer simply pay the benefits as they come due, a practice referred to as "pay-as-you-go," which was outlawed in 1974 by ERISA, the federal statute that brought private pension plans under comprehensive regulation. Now monies must be set aside under prescribed safeguards in advance of the time when they will be needed to pay the promised benefits. This process is called funding. The amount to be set aside each year on a systematic basis to meet future obligations is determined by actuaries using certain actuarial assumptions and recognized actuarial cost methods. The rate at which future obligations are to be funded is regulated under ERISA as to both underfunding and overfunding. Most defined benefit plans in existence today started in an underfunded condition. That was because they recognized service with the employer before the plan was set up. This practice was essential if

the plan was to provide adequate benefits at retirement to employees middle-aged or older when the plan was started, and it created what are known as past service liabilities. Similar liabilities are created when a plan grants retroactive benefit increases. These accrued liabilities could be huge and their funding was spread over many years, usually 30 or 40. Even under ERISA, past service liabilities can be funded over 30 years.

Until the late 1980's most corporate pension plans were underfunded to some extent. The spectacular performance of the stock market until three years ago propelled many, if not most, of those plans, into an overfunded state. Under those circumstances, the plan sponsors discontinued contributions to the plan, and many of them, because of a "quirk" in the pension cost accounting rules, reported substantial profits from their pension plans.

With the exceedingly poor performance of the stock market since 1999, that situation has been reversed. Many plans are now underfunded and their corporate sponsors are having to resume contributions to their plans—in an unfavorable economic environment. The PBGC* has reported that defined benefit plans as a group are currently underfunded by more than \$300 billion dollars.

* There had been eight increases in total dues from 1942 to 1987, including those for medical benefits and those levied on Plan members.

Of course, participants in the pension plan of a solvent corporate employer can expect the corporation to reduce or eliminate a pension plan shortfall with future contributions. If the plan should terminate with insufficient assets to meet all accrued liabilities, a governmental agency, the Pension Benefit Guaranty Corporation (PBGC), will make up the deficiency, with an indexed limit as to the amount of monthly benefit that is insured for any one individual. These benefit security safeguards are not available for church pension plans.

B. Board of Pensions Plan

1. Underlying Policy. The Plan adopted in 1927 was intended to be a fully funded plan in the sense that it would have enough assets at all times that if the plan should be discontinued for any reason it would be able to pay all accrued benefits in full. This was an achievable objective since through the efforts of the Laymen's Committee, the plan was able to start operations without any unfunded obligations. The dues were increased by one percent to meet the cost of several benefit improvements presented to and approved by the 1974 General Assembly, effective January 1, 1975, (the valuation percentage rate was raised to four percent at the same time for the same purpose). The dues were increased another one percent in 1980, to cover the incremental cost of the new median salary provision. For the new plan, effective with Reunion, the dues were set at 20 percent, of which eight percent was allocated to medical benefits and 12 percent was assigned to pension, death and disability benefits*. Of the latter amount, 11 percent was allocated to the pension component of the com-

prehensive Benefits Plan, and was based on actuarial projections made by Hay-Huggins, the plan's actuary at that time.

If the actuarial assumptions undergirding the dues structure are realistic, and are borne out by experience, the dues for a person entering the Plan at the assumed entry age should accumulate with investment earnings to a sum adequate at that member's retirement to pay all promised benefits. Under this approach, all the monies in the Plan at any given time are committed to existing plan members, a so-called closed group. Future entrants to the Plan must rely on future dues and associated investment earnings. One of the desirable attributes of this funding approach is that the cost of retirement benefits for Plan members is borne by the generation of Church members receiving their services. The cost of this component of lifetime compensation is not passed on to future generations.

2. Maturity of the Plan. Since the Plan, in its various forms, has been in operation for 75 years, it has reached a state of approximate maturity. In this context, this means that the age distribution of its members, including retired persons, no longer changes significantly with the passage of time. In fact, in recent years the average age of the members has changed little but has trended upwards. A consequence of this mature state is that current benefit payments greatly exceed dues income and have for many years. For example, in 2002, pension benefit payments totaled \$240 million, while the dues income was \$68 million.

The practical significance of this is that the present members of the Plan must look primarily to the accumulated assets and their future investment earnings for payment of their benefits. For benefits to be paid in full the assets must earn at least the assumed rate of return of five percent (four and one half plus one half for expenses). The assumed rate of four and one-half is set by the Board in the belief that that rate is the long-term real (inflation adjusted) rate likely to be earned by the invested assets. If that is all that they earn there will be no future experience apportionments from investment returns (total return = income and capital appreciation). This means that the chief determinant of the Plan's financial health is the investment performance of the portfolio. The plan has become "asset driven."

3. Types of Actuarial Valuations. There are two generic types of actuarial valuations to determine the adequacy of a plan's funding: plan termination valuation and plan continuation valuation. The first is the more stringent test. Under that approach, the accumulated assets of the plan, properly valued, are compared with the actuarial present value of all benefits accrued to the date of valuation. In the context of the PCUSA Plan, the accrued benefits would include all experience apportionments granted in the past but would not include any that might be granted in the future. In effect the Plan is valued as if it were terminating on the date of valuation, hence its name. The assets should be at least equal to the liabilities, i.e., the actuarial present value of the accrued benefits. If they are not, the Plan is underfunded at that point in its life.

That condition could be caused by (1) inadequate contributions to the Plan in the past (dues revenue); (2) investment losses; or (3) demographic (mortality or termination) or economic (compensation) experience less favorable than that assumed. If the Plan is in fact continued, the asset deficiency can be erased over time by corrective action or improved investment performance. If the assets exceed the liabilities, a surplus (contingency reserve) exists, the significance of which for the PCUSA Plan is dealt with below. For corporate plans, this test must be carried out annually and reported to federal regulators. It is performed by Towers Perrin for the PCUSA Plan as part of the Annual Valuation and identified as the Financial Accounting Standard Board (FASB) Standard 35 Valuation.

As its name suggests, the plan continuation valuation assumes that the plan continues in operation, accruing future benefit liabilities and receiving future contributions (dues). It involves assumptions not found in the plan termination valuation, including annual salary growth and member terminations. For the PCUSA Plan it recognizes future experience apportionments (assumed to be annual at a three and one half percent rate) for both accrued and future benefits. The assumed rate of future apportionments is consistent with the Plan's continuation valuation assumed interest rate (8%) and the real interest rate assumption. (4½%) It is this valuation, done annually by Towers Perrin, that forms the basis of Board policy decisions in this sector of its operations.

Table III

*Contingency Reserve at the End of Each Year of the PCUSA Pension Plan
Before and After Apportionments, as a Percentage of Actuarial Liabilities (in \$000's)*

Year	Assets	Contingency Reserve Before Apportionments		Contingency Reserve After Apportionments	
		in \$000's	as %	in \$000's	as %
1987	\$2,537,473	\$288,811	18%	\$213,918	13%
1988	2,764,072	350,571	21	236,680	13
1989	3,160,400	528,522	28	384,353	19
1990	3,081,052	231,733	11	231,733	11
1991	3,401,619	472,261	22	309,478	13
1992	3,624,228	487,907	21	398,555	16
1993	3,917,003	708,225	28	519,788	19
1994	3,850,197	422,993	16	346,041	12
1995	4,323,796	773,133	27	558,759	18
1996	4,679,638	861,079	28	684,676	21
1997	4,703,114	965,392	30	625,091	18
1998	5,370,815	1,237,118	35	893,951	23
1999	5,553,496	1,031,310	26	690,259	16
2000	6,049,775	1,017,604	24	891,284	20
2001	5,777,906	604,201	14	604,201	14
2002	5,101,922	-109,925	-2	-109,925	-2

C. Role of Contingency Reserves

The most obvious role of contingency reserves is to serve as a measure of the Plan's funding status. All pension plans need some surplus, whatever it is called and whatever its form, in order to smooth out operating results. From the standpoint of the Plan members, a positive contingency reserve is a source of benefit security—and comfort. It is also the source of future experience apportionments. Whenever the contingency reserve reaches a level beyond that needed for benefit security and operating needs, the excess can be released in the form of an experience apportionment. As pointed out earlier, an experience apportionment is an irretrievable transfer of surplus to the actuarial reserves of the Plan. It converts surplus into an actuarial liability. At the present time, each one percent experience apportionment results in a draw down of \$43 million from the contingency reserve. Because of the compounding effect on benefit liabilities, each successive one percent apportionment will be more costly than its immediate predecessor.

The size of the contingency reserve to be held is a matter of judgment. It exists primarily because the Plan assets earn a higher rate of return than that assumed in the actuarial calculations. This suggests that there is some degree of inflation in the economy. Under the design of the Plan, the excess investment earnings should be used to protect the members against inflation. If the excess earnings exceed the rate of inflation for a sustained period, as it did during the 1990's, and the cumulative experience apportionments do not exceed the cumulative CPI increases, the contingency reserve can grow to a level that may be beyond

the needs of the Plan. How much is too much?

Before Reunion, the policy of the Board of Annuities and Relief was to hold a contingency reserve of only five percent, most of the actuarial gains being distributed currently as “good experience credits.” The plan of the United Presbyterian Church in the United States of America (the Northern stream) had the goal of a contingency reserve of 15 percent of liabilities. The special experience apportionments that were made on the last day of the two plans (18.9 percent for the UPCUSA and 11.8 percent for the PCUS Plans) to bring about an equivalency of funded status at the point of merger left only a five percent initial contingency reserve for the new plan. The policy of the new plan (the present Plan) was to hold a contingency reserve in the range of five to fifteen percent of actuarial liabilities. In the light of subsequent developments, that range was too low. The actual contingency reserve at the end of each year of the present plan before and after experience apportionments is shown in Table III.

D. Evolution of the Valuation Interest Rate

The growth of the contingency reserve and hence the size and frequency of experience apportionments is critically influenced by the choice of interest rate for the actuarial valuation of the Plan's liabilities. This rate is not chosen arbitrarily. The assumption reflects the Board's view of the long-term future when it is selected. Changes in the interest rate assumption have complex impacts on the financial reporting of the Plan. Lowering the assumed interest rate increases the estimated liabilities of the Plan and decreases the reported contingency reserve. Increasing the assumed interest rate has the opposite effect: decreasing the estimated liabilities and increasing the reported contingency reserve. A lower assumed interest rate makes it more likely that the investment experience will produce gains and, hence, the basis for larger experience apportionments (except for the smaller contingency reserve!). Of course, assumptions do not change reality but they do have real world consequences. If experience apportionments are to serve their intended roles, the valuation interest rate should be close to the pure or real interest rate (the rate without inflation). Economists generally agree that the real rate is around three percent.

The original valuation rate for the 1927 Service Pension Plan was three and one half percent. Interest rates declined in the 1930's and World War II years, making it difficult, if not, impossible, to earn three and one half percent on safe investments. To permit avoidance of risky investments, the Board reduced the valuation rate to two and one half percent

in 1946. This change coincided with the

installation of Dr. Donald Hibbard as President of the Board. The valuation rate was still at two and one half percent when experience apportionments were initiated in 1964.

The rate was raised to three percent January 1, 1966; to three and one half percent January 1, 1971; and to four percent January 1, 1974, primarily to finance plan improvements.

These increases meant that monies were diverted from future experience apportionments to the funding of current benefit accruals. The rate was raised to four and one half percent January 1, 1987, the effective date of the current Plan, since the PCUS Plan had been using four and one half percent.

In 1980, in order to protect federal revenues from overfunding by corporate pension plan sponsors, federal authorities decreed that no rate lower than six percent could be used to value pension liabilities. The Plan's actuary, Hay-Huggins, being bound by standards of actuarial practice issued by the Actuarial Standards Board and supported by the Plan's external auditors, refused to continue use of four and one half percent, despite the tax-exempt status of the Board of Pensions and the unique nature of its Plan. The firm insisted on using six percent, which without offsetting action would have created a contingency reserve of indefensible size. To deal with this problem, an arbitrary assumption was made that a one and one half percent experience apportionment would be granted each year in the future. The actuarial liability created by this assumption offset the reduction in liabilities from the increase in the valuation rate of

interest.

In 1997, federal regulators, recognizing the performance of the capital markets, set a minimum valuation rate of eight percent. Again, in order to avoid a valuation of pension liabilities that seemed out of touch with then current economic reality, all of the parties involved

with the Plan agreed to adopt a valuation interest rate of eight percent. This decision implied an assumption of annual experience apportionments, from investment returns, of three and one-half percent. In common with some earlier adjustments, that change was made

Contingency Reserve %

Before Any Apportionment	Apportionment to be Granted
10% or less	None
10% – 20%	Lesser of a) experience apportionment to bring cumulative experience apportionments to 100% of cumulative inflation, and b) experience apportionment to bring contingency reserve percent down to 10%
Over 20%	Lesser of a) experience apportionment to bring cumulative experience apportionments to 160% of cumulative inflation, and b) experience apportionment to bring contingency reserve percent down to 20%; minimum experience apportionment to bring cumulative experience apportionments to 100% of cumulative inflation

for purely accounting and actuarial reasons.

The core operations of the Plan are based on the real interest rate, currently assumed to be four and one-half percent, with the expectation that inflation impacted investment earnings in excess of that rate will find their way into experience apportionments. It must be kept in mind that the true, real valuation interest rate remains four and one half percent, since apportionments are discretionary and are not a real Plan liability unless and

until declared.

IV. Asset-Liability Studies

During its long history only a few basic changes have been made in the Plan. These changes have come in response to new economic realities and shifts in the compensation policy of the denomination. Over shorter time horizons, the Board of Pensions must sometimes make midcourse corrections that redirect the progress of the Plan toward attainment of two of its three objectives. These three objectives, set out in Section II, are adequacy of retirement income, protection against inflation and fulfillment of benefit promises. The

adequacy of the retirement income objective is addressed by the basic design of the Plan. Protection against inflation, and fulfillment of benefit promises are objectives that require continuous management to be achieved.

In striving to achieve these two objectives, the Board of Pensions has two main management tools. The first is the allocation of investments into major categories such as bonds, domestic stocks and international stocks. The second tool is the experience apportionment mechanism. The Directors of the Board of Pensions have the annual responsibility of deciding whether or not to recommend an experience apportionment to the General Assembly and, if so, how large the experience apportionment should be. This responsibility cannot be delegated. Using the annual apportionment tool requires good judgment by the Directors because, as has been pointed out, experience apportionments have long-term consequences. Studies of the likely consequences of apportionment actions on the attainment of the objectives of the Plan can, therefore, be useful in making these annual decisions.

In recent decades, typically at intervals of five years, the Board of Pensions has conducted large-scale asset-liability studies. These studies have been undertaken to deepen the understanding of the Directors of the complex interactions between the world economy and the operations of the Plan. They derive their name from the fact that the dynamic relationships between both sides of the balance sheet, assets and liabilities, are examined. The output of these studies are recommendations on asset

allocation and experience apportionment guidelines, all with the goal of attaining two of the objectives of the Plan.

These asset-liability studies are complex. They are carried out by consultants under the supervision of a committee of Directors assisted by Board staff. The Plan's actuarial consultant, Towers Perrin, has carried out the recent studies in this series.

The premise of these studies is that the economic future cannot be determined with certainty. As a consequence, uncertainty must be built into the economic environments within which the operations of the Plan are to be simulated. In recent studies this has been done by generating five hundred economic scenarios. Each scenario, or string of economic events, is a collection of potential economic outcomes for each of the succeeding fifteen years. The outcomes for each year, within each scenario, include values for economic variables such as the CPI and rates of return for principal investment categories. The scenarios are generated at random by a computer program. Built into the program are statistical relationships observed in the past. These relationships include those observed across time. All of this is to discipline each economic scenario to assure a degree of internal consistency. The inputs of the program that generates the scenarios are reviewed by the supervising committee.

Using each of these economic scenarios, the operations of the Plan are projected forward for the planning period. In recent studies the planning period has been sixteen years, the

current year and a fifteen year forecast period. The result is a collection of five hundred sets of financial results for the Plan for each of the next fifteen years.

In the course of the study many different asset allocations and experience apportionment guidelines are tested. The success of these management tools is measured by how well they achieve the twin objectives of protecting against inflation and fulfilling benefit promises. In an uncertain economic world, it is unrealistic to expect that there is a strategy that will provide complete assurance of the attainment of the objectives. The practical decision rule is to recommend strategies that have a high probability of achieving the objectives. The inflation protection objective is measured by whether the strategy being tested keeps the income of retired members ahead of inflation. The benefit promises objective is measured by whether the strategy being tested keeps the contingency reserves percentage (CR percent) above zero. The CR percent is simply the dollar amount of the contingency reserve divided by the total liabilities of the Plan. The CR percent for the period since the merger of the three plans was shown earlier in Table III.

Experience apportionment decisions have been shaped, but not dictated, by a set of guidelines intended to maintain a reasonable balance between the contingency reserve and experience apportionments, against the sometimes conflicting objectives of benefit security and benefit immunity against inflation. The current guidelines, which were developed as part of the 1994-1995 Asset-Liability Study and re-affirmed by the 2000-2001 Study, are set out below:

Under these guidelines, if the CR percent is 10 percent or less, no experience apportionment should be granted—in the interest of benefit security. If the CR percent is above 10 percent but below 20 percent, it would be reasonable to grant an experience apportionment large enough to bring cumulative experience apportionments to 100 percent of cumulative inflation, so long as the experience apportionment is not so large as to drive the contingency reserve down to 10 percent or below. If the CR percent is above 20 percent, as it was several times during the stock market boom of the 1990's, the guideline would permit cumulative experience apportionments up to 160 percent of cumulative inflation. However, the experience apportionment being considered under such circumstances should not be so large as to reduce the CR percent below 20 percent. An exception to the foregoing constraint can be made if it is necessary to bring cumulative experience apportionments up to 100 percent of cumulative inflation. It can be seen that these guidelines permit, indeed, require the exercise of judgment in the experience apportionment decision process.

Asset Class	Midpoint Target	Ranges
	%	%
U.S. Equity	47.5	35-55
International Equity	17.5	10-25
Fixed Income	35.0	25-45
Alternative Investments	0.0	0-10

On December 31, 2002, the actual allocation of Plan assets was as follows:

	%
U.S. Equity	44.3
International Equity	14.9
Fixed Income	38.3
Alternative Investments	2.5
Total	100

The overriding conclusion from the asset-liability studies is that by intelligent application of the two tools, asset allocation and apportionment guidelines, the Board of Pensions has a high probability of achieving the goals of inflation protection and benefit security. This is true even under periodic adverse economic circumstances.

An economic scenario that specifies a long period of stagflation (high inflation and low investment returns) creates an environment in which it is almost impossible to simultaneously achieve inflation protection and benefit security. Thankfully, extended periods of stagflation have been rare.

V. Investment Policy and

Performance

A. Investment Policy

At the highest level, the investment policy of the Board of Pensions is designed to achieve the Pension Plan's three overriding objectives of (1) benefit adequacy, (2) benefit security (assurance of payment), and (3) benefit protection against inflation, while complying with the mandates of civil law and honoring to the extent possible the Church's commitment to socially responsible investing.

1. Implementation of the Policy.

Implementation of the policy is the responsibility of the Board's Investment Committee, composed primarily of investment professionals, which in recent years has been guided to a significant

degree by the findings of the asset-liability studies discussed in the preceding section, especially as to the allocation of Plan investments among various asset classes. The actual investment of the Plan assets is delegated to outside asset managers, seventeen at present, who have – or are believed to have – special expertise in particular “styles” of investing within certain classes of assets. Their performance is closely monitored by the Board’s investment staff and the Investment Committee, underperforming managers being terminated after having been given reasonable time, typically three to five years, to perform up to or beyond expectations, as measured against appropriate benchmark indices.

Many decisions are involved in the development and periodic review of an investment policy for the Board’s Pension Plan or any pension plan or body of assets to be invested.

One set of decisions has to do with the rate of return objective, tolerance for risk, and the need for liquidity. The minimum rate of return for the Board’s Plan is five percent, to meet the actuarial requirements of the Plan. A Plan design objective is to earn five percent plus the rate of inflation. These goals are not expected to be met every year but are to be viewed as long-term objectives. Risk tolerance in this context relates to the asset classes to be held, the quality of the individual assets, and the volatility of investment results. Liquidity is not a concern in the early years of a plan since “people don’t grow old suddenly,” but it can become a problem in the later years when benefit

payments exceed the Plan’s income. Since the Board’s Plan has reached a mature state and benefit payments exceed dues income by close to \$20 million per month, the investment portfolio must be managed with a careful eye to liquidity.

Another set of policy decisions relates to the classes of assets to be acquired, and the allocation of Plan assets among and between asset classes. Decisions in this area are known to have the greatest impact on investment performance, even greater than the selection of individual investments within each class (assuming, of course, prudence in the selection of individual items, a function of the outside managers). The broadest and most obvious asset classes are equities, fixed income instruments, and cash (instruments with maturities of less than one year). Within each of these classes, there are numerous subclasses. Equities, for example, break down into domestic, international, large cap, small cap, growth versus value, and other finer classifications. Bonds are distinguished as to corporate versus government, domestic versus foreign, sector of the economy, quality, duration, and other finer distinctions. There are many types of so-called money market instruments that are characterized as “cash.”

Academic studies going back over a hundred years show that equities, as a class, provide the highest long-term return, exceeding bond returns by several hundred basis points (100 basis points equal one percent), varying by the period of years under examination. This would suggest that an investor with a long investment horizon, such as a pension plan,

Table IV

Total Returns by Investment Year on the Balanced Investment Portfolio of the PCUSA Pension Plan, as Related to Other Key Data

Investment Year	Total Rate of Return	Excess Over 5%	CPI Increase	CPI Plus 5%	Apportionment
	%	%	%		%
1988	12.1	7.1	4.4	9.4	5.0
1989	20.3	15.3	4.6	9.6	7.0
1990	-2.2	-7.2	6.1	11.1	8.0
1991	20.1	15.1	3.1	8.1	0.0
1992	5.6	0.6	2.9	7.9	8.0
1993	15.0	10.0	2.7	7.7	4.0
1994	-1.8	-6.8	2.7	7.7	8.0
1995	23.6	18.6	2.5	7.5	3.0
1996	14.4	9.4	3.3	8.3	8.0
1997	18.4	13.4	1.7	6.7	6.0
1998	15.5	10.5	1.6	6.6	11.0
1999	19.0	14.0	2.7	7.7	10.0
2000	-3.8	-8.8	3.4	8.4	9.0
2001	-4.5	-9.5	1.6	6.6	3.0
2002	-9.8	-14.8	2.4	7.4	0.0
Compound Annual Return	8.9	3.9	3.1	8.1	5.9

should be heavily invested, even 100 percent, in equities. However, this higher investment return is accompanied by the highest short-term volatility of any asset class, requiring a higher level of risk tolerance on the part of the investing institution. At the other extreme, money market

instruments have virtually no volatility but provide the lowest rate of return. If the PCUSA Plan were to be invested predominantly in short-term investments, it would be exposed to little risk of loss but would have virtually no chance of meeting its return objective of five percent (or

five percent plus inflation). Experience apportionments would be out of the question. Long-term and intermediate-term bonds occupy a middle position: lower yield and lower risk than equities and a higher return and higher volatility than short-term instruments. The answer clearly is an investment portfolio balanced as to asset classes and as to risk-return characteristics. That is the policy of the Board of Pensions and has been for decades.

At the present time the assets of the Pension Plan are invested in accordance with the following guidelines established by the Investment Committee of the Board and approved by the full Board of Directors.

The fixed income class includes “cash” which is generally less than five percent of the portfolio and provides liquidity and the flexibility to respond to changes in the capital markets. Alternative investments include distressed debt, private equity, venture capital, and other investments not traded through traditional public markets or security exchanges. The ranges are unusually wide in order to permit the Investment Committee to respond to changing market conditions without the necessity of going to the full Board for a change in guidelines. For the last twenty years or so, the typical asset allocation of corporate defined benefit plans has been two-thirds in equities (domestic and international) and one-third in fixed income securities, including money market instruments. Some plans allocated 100 percent of the portfolio to equities, less a small percentage in cash for operational purposes.

Even with wide ranges of permissible asset holdings, it may be necessary from time to time to rebalance the portfolio to keep the various asset holdings within their permissible limits. It is the responsibility of the investment staff to rebalance the portfolio, always moving toward the mid-point of the range for each asset class. This requires taking gains in asset classes that have outperformed their target, such as equities in the late 1990’s, and placing the proceeds in other asset classes, including “cash” for benefit payments. This rebalancing by the Board reduced the equity allocation during 1998 through 2000, in the process raising almost one billion dollars to pay benefits. The Investment Committee does

not engage in market timing (making portfolio changes on predictions of future interest rate movements and stock market trends) which can yield huge investment gains or equally huge losses.

2. Other Considerations for Investment

Policy. The Board of Pensions, operating under the strictures of an 1876 Pennsylvania Not-For-Profit Corporation law, is subject to all the fiduciary duties of any person or organization managing money or property for the benefit of others. These duties are spelled out in explicit detail in statutes and judicial decisions and must be strictly observed. They include quality criteria for investments; selection, retention and evaluation of money managers; conflict of interest; duties of loyalty and care; and the overriding duty to act “solely in the interests of Plan participants.”

Sometimes in conflict with these duties is the Board’s wholehearted commitment to socially responsible investing. In 1972 the Church established the Committee on Mission Responsibility Through Investment (MRTI), following an affirmation by the 1971 General Assembly that investment of Church assets is an instrument of mission. The Board of Pensions designates two Directors as voting members of the Committee, participating fully in all activities and decisions. While the assets of the Pension Plan are the undivided assets of the Plan members as a group, the Board has worked faithfully with MRTI in pursuit of peace, racial justice, economic, and social justice, women’s rights, and protection of the environment – without harm to the performance of the investment portfolio.

The goals of MRTI are pursued through divestment and/or proscription of stocks of firms in targeted areas, such as tobacco, alcohol, and gambling; through dialogue with corporate management; and, through the exercise of shareholder rights, namely, filing shareholder resolutions and voting proxies on issues of concern to the Church, such as, the environment and corporate governance.

B. Investment Performance

In the broadest context, the success of the investment policy of the Board of Pensions is measured in terms of the achievement of the three design objectives of the Pension Plan: adequacy of retirement income; protection of retirement income against inflation; and, fulfillment of benefit promises. A more focused measure of success is whether over time (specifically the period since inception) the portfolio has generated total returns (income plus or minus changes in market value) equal to the actuarially required return of five percent or the hoped-for five percent plus inflation (increases in the CPI). The answer to the latter question is found in Table IV.

It can be seen that since Plan inception the portfolio has produced a compound annual return of 8.9 percent, despite the drag of five years of negative returns. The wisdom of the balanced portfolio is reflected in the modest losses in 2000, 2001 and 2002, as compared to the calamitous declines in stock prices. The portfolio outperformed the required five percent by an average of 3.9 percent and the CPI plus five percent by 80 basis points, or nearly one percentage point. This excess was available

APPENDIX A

Historical Record of Apportionments of the PCUSA, UPCUSA and PCUS-MAF Pension Plans and

Year	Apportionments			Annual Increase
	Annual Increase	Increase Through 12/31/2002 Compound	Annualized	
	UPCUSA			PCUS-MAF
1964	9.0%	781.2%	5.7%	8.0%
1965		708.4%	5.7%	
1966		708.4%	5.8%	10.0%
1967		708.4%	6.0%	
1968	9.5%	708.4%	6.2%	7.0%
1969		638.0%	6.1%	5.0%
1970		638.0%	6.2%	15.0%
1971	16.8%	638.0%	6.4%	
1972		531.8%	6.1%	5.0%
1973	10.8%	531.8%	6.3%	12.0%
1974		470.0%	6.2%	13.0%
1975		470.0%	6.4%	
1976		470.0%	6.7%	
1977	10.0%	470.0%	6.9%	5.0%
1978		418.2%	6.8%	
1979		418.2%	7.1%	
1980	16.0%	418.2%	7.4%	6.0%
1981		346.7%	7.0%	7.0%
1982	10.0%	346.7%	7.4%	
1983	5.0%	306.1%	7.3%	10.0%
1984	12.0%	286.8%	7.4%	5.0%
1985	12.0%	245.3%	7.1%	5.0%
1986	9.0%	208.3%	6.8%	6.0%
1987	18.9%	182.9%	6.7%	11.8%
	PCUSA			PCUSA
1988	5.0%	137.9%	5.9%	5.0%
1989	7.0%	126.6%	6.0%	7.0%
1990	8.0%	111.8%	5.9%	8.0%
1991	0.0%	96.1%	5.8%	0.0%
1992	8.0%	96.1%	6.3%	8.0%
1993	4.0%	81.6%	6.1%	4.0%
1994	8.0%	74.6%	6.4%	8.0%
1995	3.0%	61.6%	6.2%	3.0%
1996	8.0%	56.9%	6.6%	8.0%
1997	6.0%	45.3%	6.4%	6.0%
1998	11.0%	37.1%	6.5%	11.0%
1999	10.0%	23.5%	5.4%	10.0%
2000	9.0%	12.3%	3.9%	9.0%
2001	3.0%	3.0%	1.5%	3.0%
2002	0.0%	0.0%	0.0%	0.0%

the Compounded Effect of Apportionments and CPI Increases

Apportionments		CPI		
Increase Through 12/31/2002 Compound	Annualized	Annual Increase	Increase Through 12/31/2002 Compound	Annualized
730.6%	5.6%	1.2%	485.0%	4.6%
669.1%	5.5%	1.9%	478.1%	4.7%
669.1%	5.7%	3.4%	467.3%	4.8%
599.2%	5.6%	3.0%	448.7%	4.8%
599.2%	5.7%	4.7%	432.7%	4.9%
553.4%	5.7%	6.1%	408.8%	4.9%
522.3%	5.7%	5.6%	379.5%	4.9%
441.1%	5.4%	3.3%	354.1%	4.8%
441.1%	5.6%	3.4%	339.6%	4.9%
415.4%	5.6%	8.7%	325.1%	4.9%
360.2%	5.4%	12.3%	291.1%	4.8%
307.2%	5.1%	6.9%	248.3%	4.6%
307.2%	5.3%	4.9%	225.8%	4.5%
307.2%	5.5%	6.8%	210.6%	4.5%
287.8%	5.6%	9.0%	190.8%	4.4%
287.8%	5.8%	13.3%	166.8%	4.2%
287.8%	6.1%	12.5%	135.5%	3.8%
265.9%	6.1%	8.9%	109.3%	3.4%
241.9%	6.0%	3.8%	92.2%	3.2%
241.9%	6.3%	3.8%	85.2%	3.1%
210.8%	6.2%	3.9%	78.4%	3.1%
196.0%	6.2%	3.8%	71.7%	3.0%
181.9%	6.3%	1.1%	65.4%	3.0%
166.0%	6.3%	4.4%	63.6%	3.1%
137.9%	5.9%	4.4%	56.7%	3.0%
126.6%	6.0%	4.6%	50.1%	2.9%
111.8%	5.9%	6.1%	43.5%	2.8%
96.1%	5.8%	3.1%	35.3%	2.5%
96.1%	6.3%	2.9%	31.2%	2.5%
81.6%	6.1%	2.7%	27.5%	2.5%
74.6%	6.4%	2.7%	24.1%	2.4%
61.6%	6.2%	2.5%	20.9%	2.4%
56.9%	6.6%	3.3%	17.9%	2.4%
45.3%	6.4%	1.7%	14.2%	2.2%
37.1%	6.5%	1.6%	12.2%	2.3%
23.5%	5.4%	2.7%	10.5%	2.5%
12.3%	3.9%	3.4%	7.6%	2.5%
3.0%	1.5%	1.6%	4.0%	2.0%
0.0%	0.0%	2.4%	2.4%	2.4%



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