Report of
AN ACTUARIAL VALUATION
December 31, 1985 of the
Fridley Police Pension Association
Fridley, Minnesota

GABRIEL, ROEDER, SMITH & COMPANY

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GABRIEL, ROEDER, SMITH & COMPANY
ACTUARIES & CONSULTANTS
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April 25, 1986

Board of Trustees
Fridley Police Pension Association
Fridley, Minnesota

Submitted in this report are the results of the December 31, 1985 actuarial valuation of the assets, actuarial values and contribution requirements associated with the benefits provided by the Fridley Police Pension Association.

The valuation results contained in Section A provide the actuarial information needed to determine the employer's "minimum obligation" effective January 1, 1987. Section A also contains comments regarding the valuation results.

The valuation was based upon information furnished by the association concerning benefits, financial transactions, active members, terminated members, retirants and beneficiaries. Data was checked for year to year consistency but was not otherwise audited by us. This information is summarized in Section B.

A description of the actuarial funding method and the risk experience assumptions used is contained in Section C. The economic risk experience assumptions, as well as the actuarial funding method to be used, are established by state law.

Information needed to comply with Statement of Financial Accounting Standards No. 35 is contained in Section D.

The actuarial valuation was prepared using generally accepted actuarial principles and practices based upon the methods, assumptions, summary of plan provisions and the member and financial data described in this report.

Respectfully submitted,

Ronald J. W. Smith Gary W. Findlay

SECTION A

RESULTS OF THE VALUATION

COMMENTS

Economic Assumptions and Financing Method

The economic assumptions of 5% annual investment return and 3-1/2% annual salary increases are established by state law. State law also specifies that the annual minimum obligation of the municipality shall be determined by adding (i) the employer normal cost percent times covered payroll to (ii) the level dollar amount required to amortize the unfunded accrued liability by December 31, 2010.

It is worth noting that when the same assumptions and methods are applied to plans which differ in nature, the valuation results may not be comparable (for example, it is currently not valid to compare valuation results for a plan having full escalation to valuation results for a plan having a 3-1/2% cap on escalation). Caution should be exercised when attempting to assess the financial condition of one Association relative to another on the basis of valuation results produced using the assumptions and methods mandated by state law.

Fridley Police Pension Association

CONTRIBUTION RATE TO PROVIDE BENEFITS

Member portion & Employer portion

Effective January 1, 1987

Contributions for	If Paid Equally Throughout Year Normal Cost % of Active Payroll for 1987	+	UAAL Dollars
Normal cost of annuities:			
Age & service: to members	18.49%		
Age & service: to survivors	3.20		
Disability	2.81		
Death before retirement	2.08		
Refunds of member contributions	0.10		
Total Normal Cost	26.68		
Amortization of unfunded actuarial accrued liabilities (UAAL) (24 year level dollar payment)			
Retired lives			$ 2,006
Active members			117,467
Total			$119,473
Total Cost of Benefits	26.68%	+	$119,473
Member contributions	8.00		
COMPUTED EMPLOYER RATE:			
(a) If Paid Equally Throughout Year	18.68%	+	$119,473
(b) IF PAID AT CALENDAR YEAR END	19.14%	+	$122,423

Fridley Police Pension Association

Present Actuarial Condition

The Association's accrued actuarial assets were in excess of $3.4 million on December 31, 1985 -- a considerable sum of money if unencumbered and allocated among a small group of persons. This is not the case with the Association's assets.

The following schedule puts the $3.4 million into perspective by showing the relationship between accrued actuarial assets, actuarial accrued liabilities and the number of persons with actual and potential claims on the Association's assets.

	Accrued Actuarial Assets	Actuarial Accrued Liabilities	Unfunded Actuarial Accrued Liabilities	% Funded
Retirants and Beneficiaries				
Retired Members (11)		$3,169,896		
Surviving Spouses (1)		85,980		
Surviving Children (0)		0		
Total (12)	$3,227,513	$3,255,876	$ 28,363	99.1%
Deferred Members (0)	0	0	0	
Active Members (14)	214,079	1,875,160	1,661,081	11.4
Total	$3,441,592	$5,131,036	$1,689,444	67.1%

Actuarial accrued liabilities represent the value, computed as of December 31, 1985 of:

(i) retirement allowances likely to be paid the 12 retirants and beneficiaries; and

(ii) the contributions assumed to have been made for the 14 active members from their entry into the plan until December 31, 1985.

To illustrate, the value of retirement allowances likely to be paid the 12 retirants and beneficiaries, discounted for investment earnings and mortality, was computed to be $3,255,876 as of December 31, 1985. This means that if the 12 retirants and beneficiaries live and die according to the assumed mortality and if the $3,255,876 can be invested to yield an average annual return of 5.0 percent over the remaining lifetimes of the 12 retirants and beneficiaries, then the $3,255,876 together with investment earnings thereon will just be sufficient to pay the 12 retirants and beneficiaries their allowances for their remaining lifetimes.

With respect to active members, the actuarial accrued liability of $1,875,160 represents the amount that would have been accumulated by December 31, 1985 if the normal cost (which is expressed as a level percentage of pay) had been contributed from the date of hire until December 31, 1985 for each of the 14 actives, if these amounts had earned 5.0% interest and if the members in the past had lived, died, withdrawn, retired and received salary increases according to the actuarial assumptions shown in this report.

Historical Funding Ratio Schedule
($ in thousands)

Valuation Date December 31	Actuarial Accrued Liabilities	Accrued Actuarial Assets	Percent Funded
1978	$1,854	$1,265	68.2%
1979	N/A	N/A	N/A
1980	2,830	1,730	61.1
1981	3,046	1,944	63.8
1982	3,810	2,254	59.2
1983	4,226	2,604	61.6
1983*	4,475	2,604	58.2
1984	4,876	2,976	61.0
1985	5,131	3,442	67.1

* After change in assumptions.

Fridley Police Pension Association

Computed Contributions - Comparative Schedule

Year Ended December 31		Total Normal Cost as a Percent of Valuation Payroll*	Contribution For Unfunded Actuarial Accrued Liabilities - $ or %
Valuation	Fiscal		
1978	1980	24.52%	$ 36,833
1979	1981	N/A	N/A
1980	1982	25.73	70,947
1981	1983	N/A	N/A
1982	1984	25.92	103,727
1983	1985	25.64	110,086
1983	1985**	27.62	127,021
1984	1986	27.04	131,539
1985	1987	26.68	119,473

* Includes employee contributions.

** After change in assumptions.

Fridley Police Pension Association

CONTRIBUTION FOR CALENDAR YEAR EFFECTIVE JANUARY 1, 1987

For any period of time the percent-of-payroll contribution rate is converted to dollars. The amount of dollars for any calendar year depends upon the results of the last actuarial valuation, and upon the timing of contributions within the year. The later the contribution date, the greater the dollar amount will be.

The municipality's dollar contribution for the year may be determined as follows:

(1)	Estimated covered payroll for 1987		$_____	
(2)	Total normal cost % from page A-2		26.68%	
(3)	Total normal cost (Line 1 times line 2)			$_____
(4)	Amortization payment on UAAL from page A-2			119,473
(5)	Total contributions required (Line 3 plus line 4)			_____
(6)	Employee contributions (Line 1 times 8%)		$_____	
(7)	(a) State amortization aid based on 12/31/78 UAAL of $588,573	$8,858		
	(b) State amortization aid based on 1984 legislation	3,009		
	(c) Total state amortization aid		$11,867	
(8)	Estimated insurance premium aid		_____	
(9)	Estimated total contributions from other sources (Line 6 plus line 7 plus line 8)			_____
(10)	Employer's Minimum Obligation if payment is made in equal installments throughout the year. (Line 5 minus line 9)			$_____
(11)	EMPLOYER'S MINIMUM OBLIGATION IF PAYMENT IS MADE AT YEAR END (Line 10 times 1.0247)			$_____

SECTION B

VALUATION DATA

AND

SUMMARY OF BENEFIT PROVISIONS

Fridley Police Pension Association

Retirants and Beneficiaries December 31, 1985

By Type of Annuity Being Paid

Type of Annuity Being Paid	No.	Monthly Amounts	Computed Actuarial Accrued Liabilities
Retirants receiving:			
Age & Service	5	$ 5,753.44	$1,219,368
Disability	6	7,061.04	1,950,528
Totals	11	12,814.48	3,169,896
Beneficiaries receiving:			
Spouse	1	588.42	85,980
Child	0	0	0
Totals	1	588.42	85,980
Totals	12	$13,402.90	$3,255,876

Inactive Members Eligible for Deferred Benefits

December 31, 1985

No.	Monthly Amount	Computed Actuarial Accrued Liabilities
0	$0	$0

Fridley Police Pension Association

Retirants and Beneficiaries December 31, 1985

By Attained Ages

Attained Ages	Number		
	Age & Service	Disability	Death Before Retirement
30-34		1	
45-49		1	
50-54	1	2	
55-59	2	2	
60-64	1		
65-69	2		
Totals	6	6	0

Fridley Police Pension Association

Retirants and Beneficiaries Added to and Removed from Rolls

Comparative Statement

Valuation Date December 31	No. Added to Rolls	No. Removed from Rolls	Rolls End of Year		% Incr. in Annual Allowances	Average Allowances	Discounted Value of Allowances	
			No.	Annual Allowances			Total	Average
1978			4	$ 31,584	- %	$ 7,896	$ 610,558	$152,640
1979	1		5	45,199	43.1	9,040	801,337	160,267
1980	2		7	69,710	54.2	9,959	1,327,023	189,575
1981	1	1	7	71,456	2.5	10,208	1,355,832	193,690
1982	2		9	102,059	42.8	11,340	2,109,561	234,396
1983	1		10	120,972	18.5	12,097	2,600,209	260,021
1984	2		12	153,160	26.6	12,763	3,183,864	265,322
1985			12	160,835	5.0	13,403	3,255,876	271,323

Fridley Police Pension Association

Active Members December 31, 1985

By Attained Age and Years of Service

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
30-34			1					1	$ 30,744
35-39			5					5	153,720
40-44			2					2	61,488
45-49			1	3				4	122,976
50-54				1				1	30,744
55-59						1		1	30,744
Totals			9	4		1		14	$430,416

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 42.6 years.

Service: 15.0 years.

Annual Pay: $30,744.

Fridley Police Pension Association

Comparative Schedule

Of Active Members

Valuation Date December 31	Active Members	Valuation Payroll	Average			
			Age	Service	Pay	% Incr.
1978	25	$487,920	38.2 yrs.	9.7 yrs.	$19,517	- %
1979	24	504,000	38.7	10.3	21,000	7.6
1980	21	485,100	39.2	11.0	23,100	10.0
1981	19	478,401	40.8	12.3	25,179	9.0
1982	17	453,730	41.6	13.1	26,690	6.0
1983	16	448,336	42.1	13.9	28,021	5.0
1984	14	411,894	41.6	14.0	29,421	5.0
1985	14	430,416	42.6	15.0	30,744	4.5

Fridley Police Pension Association

Brief Summary (12/31/85) of Benefit Provisions Evaluated and/or Considered

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Age & Service Retirement

Eligibility. 10 years of service and 50 years of age.

Amount. For first 10 years of service, 15/75 of base pay. For each year in excess of 10 but less than 20, an additional 2/75 is added. For each year in excess of 20, an additional 1/75 is added up to a maximum of 42/75 of base pay for 27 or more years of service.

Pay Used For Plan Purposes. For benefit determination, "base pay" means the salary of a first grade patrolman for the second month of the preceding fiscal year. For contribution purposes, it means the current base pay of a first grade patrolman.

Disability Retirement

Eligibility. Disabled to the extent that no longer able to perform duties of a police officer before being eligible for age & service retirement.

Amount. 36/75 of base pay.

Member's Death While Active, Or In Deferred Status, Or Retired

Eligiblity.

Spouse. Legally married to member at least one year before member's separation from service and residing with member at time of death. Benefits terminate upon remarriage.

Child. Younger than age 18.

Amount.

Spouse. 18/75 of base pay.

Child. 6/75 of base pay. Children's maximum is 18/75 if spouse is receiving or 36/75 if no spouse is receiving.

Vested Deferred. 10 years of service and separated before age 50. Payment beginning is deferred to attainment of age 50. Maximum benefit is 40/75 of base pay.

Post-Retirement Adjustments ("Escalator"). Each time base pay is changed, payments to all benefit recipients are changed by the same percent that base pay is changed. (Exception - For members on age & service retirement with less than 20 years service, the maximum increase is 3% compounded annually. Also applies to survivors of these retirants.)

Member Contributions. 8% of base pay. 75% of total member contributions is refundable, without interest, if no benefit is payable upon separation from service.

SECTION C

VALUATION METHODS AND ASSUMPTIONS

Fridley Police Pension Association

Valuation Methods and Assumptions

The Entry Age Normal Cost method was used to determine the normal cost of all benefits.

The rate of investment return (interest) used in making the valuation was 5.0 percent per annum, compounded annually. State law requires use of this assumption.

The mortality table used was the UP-1984 Table set forward 2 years for males and set back 3 years for females.

Sample Ages	Single Life Values: Present Value of $1 Monthly — Level For Life		Increasing 3.5% Yearly		Future Life Expectancy (Years)	
	Men	Women	Men	Women	Men	Women
45	$177.21	$189.58	$280.82	$314.75	29.50	34.00
50	163.12	177.21	246.55	280.82	25.20	29.50
55	147.50	163.12	212.60	246.55	21.16	25.20
60	130.52	147.50	179.49	212.60	17.42	21.16
65	112.87	130.52	148.28	179.49	14.05	17.42
70	95.20	112.87	119.70	148.28	11.09	14.05
75	77.77	95.20	93.83	119.70	8.52	11.09
80	61.71	77.77	71.69	93.83	6.39	8.52

Age & service retirement was assumed to occur at age 58, or attained age if older.

Sample Rates of Separation from Active Employment Before Retirement, Death or Disability.

Sample Ages	% of Active Members Separating within Next Year
20	1.50%
25	1.25
30	1.00
35	0.75
40	0.50
45	0.25
50+	0.00

Sample Pay Adjustment Factor Used To Project Current Pays

Sample Ages	Present Pay Resulting in Pay of $1,000 at Age 60	Percent Increase in Pay During Next Year
20	$ 253	3.5%
25	300	3.5
30	356	3.5
35	423	3.5
40	503	3.5
45	597	3.5
50	709	3.5
55	842	3.5
60	1,000	3.5

Disability retirements were assumed to occur as indicated below:

Sample Ages	% of Active Members Becoming Disabled within Next Year
20	0.08%
25	0.08
30	0.08
35	0.08
40	0.20
45	0.26
50	0.49
55	0.89

SECTION D

ACCUMULATED PLAN BENEFITS

Fridley Police Pension Association

Statement of the Present Value of Accumulated Plan Benefits

December 31, 1985

Actuarial Present Value of Accumulated Plan Benefits	
Vested Benefits:	
Participants currently receiving payments	$3,230,388
Other participants	792,108
Total Vested Benefits	4,022,496
Non-Vested Benefits	235,298
Total Actuarial Present Value of Accumulated Plan Benefits	$4,257,794

The actuarial present value of accumulated plan benefits as of January 1, 1985, was $4,044,733. During the year, the plan experienced a net increase of $213,061 in the actuarial present value of accumulated plan benefits due to general plan experience.

The accompanying notes are an integral part of the Statement of the Present Value of Accumulated Plan Benefits.

1. The actuarial present value of accumulated plan benefits presented in this statement was determined using the following assumptions:

   a. Future salary increases prior to retirement were not considered for active members.

   b. Future service was considered only to the extent that it would permit active plan participants to become eligible for benefits attributable to service rendered prior to the date of determination.

   c. Regular valuation assumptions were used as to mortality, withdrawal, retirement ages, and disability.

   d. Investment return was assumed to be at the rate of 8% compounded annually.

   e. Salary increase related post retirement benefit adjustments were assumed to be at the rate of 6-1/2% compounded annually unless a lower rate is specified by law.

2. The calculation of the actuarial present value of accumulated plan benefits was made because of the requirements of the Financial Accounting Standards Board. Comparison of this value with plan assets is not indicative of the future ability of the plan to pay benefits when due or of their security in a termination situation.

   Calculation of contribution requirements and related benefit value information in a "going concern" environment according to the principles of level cost financing is made by the annual actuarial valuations. The results of the contribution rate calculations cannot be simply replaced by the accumulated plan benefit results. To do so will mislead.

APPENDICES

APPENDIX I

FINANCIAL PRINCIPLES AND OPERATIONAL TECHNIQUES

Promises Made, and Eventually Paid. As each year is completed, the plan in effect hands an "IOU" to each member then acquiring a year of service credit -- the "IOU" says: "The Pension Plan owes you a portion of your retirement benefits, payments to be made in cash, commencing when you qualify for retirement."

The related key financial questions are:

Which generation of taxpayers contributes the money to cover the IOU?

The present taxpayers, who receive the benefit of the member's present year of service?

Or the future taxpayers, who happen to be in town paying taxes at the later time when the IOU becomes a cash demand?

A sound principle of sound retirement plan financing is to have this year's taxpayers contribute the money to cover the IOUs being handed out this year. By following this principle, THE CONTRIBUTION RATE WILL REMAIN APPROXIMATELY LEVEL FROM GENERATION TO GENERATION -- our children and grandchildren will contribute the same percents of active payroll we contribute now.

A PENSION PLAN BECOMES CLOSED

The diagram in this appendix shows two important activities which occur after a plan has been closed to employees hired in the future.

Cash benefits paid continue to increase for decades, while active member payroll begins to decrease to zero.

Funding Method. A funding method is the long-term, planned pattern for employer contributions.

For an open plan (a plan covering future employees), the level-percent-of-active-member payroll funding method is the basic funding method.

The level-percent funding method can also be applied to a closed plan. However, the resulting contribution percent usually jumps to a high rate, because the number of covered active members is decreasing.

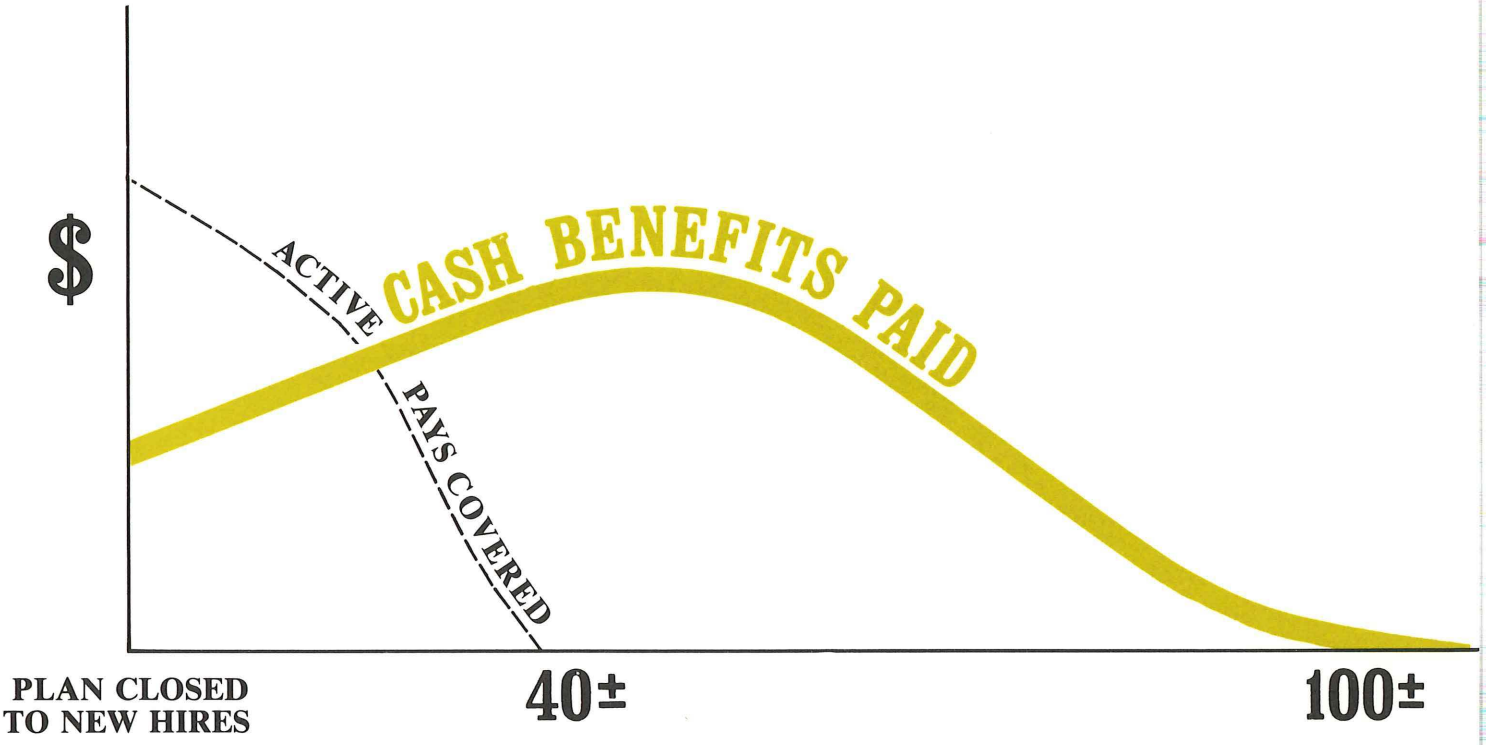
A preferred funding method for a closed plan consists of: level-percent funding for normal cost (the cost of members' service now being rendered); plus a level dollar contribution for unfunded actuarial accrued liabilities over a limited period of years. The period of years must be limited so that plan assets don't become zero while benefits are still payable.

Computing Contributions To Support Plan Benefits. From a given schedule of benefits and from the employee data and asset data furnished him, the actuary determines the contribution rates to support the benefits by means of an actuarial valuation and a funding method.

In making an actuarial valuation, assumptions must be made regarding anticipated financial experiences for the next year and for decades in the future. Only the subsequent actual experience of the plan can indicate the degree of accuracy of the assumptions. Reconciling Differences Between Assumed Experience and Actual Experience. Once actual experience has occurred and been observed, it will not coincide exactly with assumed experience, regardless of the wisdom of the assumptions or the skill of the actuary and the millions of calculations he made. The future can be predicted with considerable but not 100% precision, except for inflation which seems to defy reliable prediction.

A well-managed plan copes with these continually changing differences by having periodic actuarial valuations. Each actuarial valuation is a complete recalculation of assumed future experience, taking into account all past differences between assumed and actual experience. The result is continuing adjustment in financial position.

A CLOSED PENSION PLAN



A plan becomes closed when no new hires are admitted to active membership. The persons covered by the plan at the time of closing continue their normal activities and continue to be covered by the plan, until the last survivor dies.

CASH BENEFITS LINE. After a pension plan becomes closed, the usual pattern is for cash benefits to continue to increase for decades of time. Eventually the cash benefits will peak, and then gradually decrease over more decades of time, ultimately to zero. The last cash benefit is likely to occur a century after the time the plan is closed.

The precise amounts of cash benefits cannot be known now, and must be estimated by assumptions of future experiences in a variety of financial risk areas.

APPENDIX II

MEANING OF UNFUNDED ACCRUED LIABILITIES

Almost every pension plan (public or private) has "unfunded accrued liabilities", so whatever they are, they aren't rare. Since the term is not part of everyday conversation, it needs some definition.

"Accrued liabilities" are the present value $ of plan promises to pay benefits in the future based upon service already rendered - - - a liability has been established ("accrued") because the service has been rendered, but the resulting monthly cash benefit may not be payable until years in the future. Accrued liabilities $ are the result of complex mathematical calculations, which are made by the plan's actuary (which is the name given to the specialist who makes such calculations).

If "accrued liabilities" at any time exceed the plan's accrued assets (cash & investments), the difference is "unfunded accrued liabilities". This is the common condition. If the plan's assets equalled the plan's "accrued liabilities", the plan would be termed "fully funded". This is a rare condition.

- -

Each time a plan adds a new benefit which applies to service already rendered, an "accrued liability" is created, which is also an "unfunded accrued liability" because the plan can't print instant cash to cover the accrued liability. Payment for such unfunded accrued liabilities is spread over a period of years, commonly in the 20-40 year range.

Unfunded accrued liabilities can occur in another way: If actual financial experience is less favorable than assumed financial experience, the difference is added to unfunded accrued liabilities. In plans where plan benefits are directly related to an employee's pay near time of retirement (a common plan provision) rather than his average pay throughout his working career, unfunded accrued liabilities have been increasing in recent years because unexpected rates of pay increase have created additional accrued liabilities which could not be matched by reasonable investment results. Some of these unexpected pay increases are the direct result of inflation, which is a very destructive force on financial stability.

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The existence of unfunded accrued liabilities is not bad, then (any more than a mortgage on your house is "bad"), but the changes from year to year in amount of unfunded accrued liabilities are important - - - "bad" or "good" or somewhere in between.

Nor are unfunded accrued liabilities a bill payable immediately (your food costs are payable immediately), but it is important that policy-makers prevent the amount from becoming unreasonably high and it is vital that your plan have a sound method for making payments toward them so that they are controlled.

The existence of large amounts of unfunded accrued liabilities indicates that total contributions in past years were less than level - - - an almost certain history if retired life liabilities are not fully funded now.