
ILLINOIS MUNICIPAL RETIREMENT FUND
Annual Actuarial Valuation

December 31, 2002



Gabriel, Roeder, Smith & Company

TABLE OF CONTENTS

| Section | Pages | Item |
|---------|-------|---------------------------------------|
| | 1-3 | Introduction |
| A | | Valuation Results |
| | 1-2 | Sources and Uses of Funds |
| | 3-8 | Contribution Rates |
| | 9 | Projection |
| | 10-11 | Unfunded Accrued Liabilities |
| | 12 | Short Condition Test |
| B | | Benefit Provisions and Valuation Data |
| | 1-3 | Benefit Summary |
| | 4 | Data Summary |
| | 5-13 | Active & Inactive Members |
| | 14-16 | Retirees and Beneficiaries |
| | 17 | Comparative Summary |
| C | 1-3 | Financial Data |
| D | 1-10 | Actuarial Methods and Assumptions |
| E | | Financial Principles |
| | 1-2 | Operational Techniques |
| | 3-4 | The Valuation Process |
| | 5-7 | Glossary |



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May 2, 2003

Board of Trustees
Illinois Municipal Retirement Fund
Oak Brook, Illinois 60521

Ladies and Gentlemen:

The results of the **December 31, 2002 annual actuarial valuations of members** covered by the Illinois Municipal Retirement Fund are presented in this report. The purpose of the valuations, as provided by Article 7 of the Illinois Pension Code, is to measure IMRF's funding progress and to establish contribution rates for the 2004 calendar year.

The valuations are based upon current plan provisions related to Regular Members, Sheriff's Law Enforcement Personnel (SLEP), and Elected County Officials (ECO) employment. All promised benefits are included in the actuarially calculated contribution rates. These provisions are summarized in Section B.

IMRF staff furnished the individual member statistical data required for the valuations, together with pertinent data on financial operations. Their cooperation in furnishing these materials is acknowledged with appreciation.

The actuarial assumptions used in the valuations are summarized in Section D of this report. The Board of Trustees establishes the assumptions after consulting with the actuary. They are internally consistent and are based on the results of the Triennial Experience Study covering 1999-2001 experience.

The valuations were completed by qualified actuaries in accordance with accepted actuarial procedures prescribed by the Actuarial Standards Board. The qualified actuaries are members of the American Academy of Actuaries and are experienced in performing actuarial valuations of public employee retirement systems. To the best of our knowledge this report is complete and accurate and the actuarial methods and assumptions produced results that are reasonable. It is our opinion that the Illinois Municipal Retirement Fund is in sound condition in accordance with actuarial principles of level percent of payroll financing.

Respectfully submitted,
GABRIEL, ROEDER, SMITH & COMPANY

Brian B. Murphy, F.S.A.

Norman L. Jones, F.S.A.

NLJ/lr

INTRODUCTION

IMRF is established under statutes adopted by the Illinois General Assembly. It is a multiple employer defined benefit pension plan that, as of December 31, 2002, serves 3,136 active plans and 353,897 active, inactive and retired persons. Since IMRF reports information to us by plan, there are cases in which a person with employment in more than one plan is counted multiple times for census counts. This produces an overstatement in the census when compared with true counts of people. Liabilities are, however, correctly calculated and apportioned among employers. This issue may affect inactive members to a greater extent than it affects others. IMRF is funded by both member and employer contributions. Members contribute at fixed rates determined by statute. Regular members contribute 4.5% of pay; SLEP members contribute 6.5%; ECO members contribute 7.5%. Participating employers make all additional contributions needed to provide benefits. Each employer contributes to a separate account within IMRF which, when combined with member contributions and investment income, will be sufficient to provide future benefits for its own employees. Employer contributions are computed each year in the actuarial valuation and consist of:

- **Normal Cost Contributions** for normal and early retirement benefits, separation benefits, permanent disability benefits, and annuity type death benefits. These contributions are the same for each employer.
- **Contributions for lump sum death-in-service benefits**, which are separately determined for each employer.
- **Contributions for temporary disability benefits**, which are the same for each employer.
- **Contributions for 13th checks**, which are 0.62% of covered payroll for each employer.
- **Contributions for ERI unfunded liabilities** which are separately determined for each employer.
- **Contributions for other unfunded liabilities**, which are separately determined for each employer. For most employers with taxing authority, unfunded liabilities are being funded over 28 remaining years. For most other employers the remaining period is 5 years. A separate schedule applies to each year's new employers. In the case of employers whose assets exceed the liabilities, the amortization policy is described on page D-9.

Employer contributions computed in this valuation compared with those computed in the prior valuation are shown below.

| | Average Employer Contribution Rates Expressed as %'s of Active Member Pays | | |
|-----------------|---|--------|--------|
| | Regular | SLEP | ECO |
| This Valuation | 7.82% | 16.29% | 44.90% |
| Prior Valuation | 6.22% | 14.04% | 40.37% |

This year's valuation results were affected by:

- Investment return less than assumed on a market value basis over the last 3 years. The investment loss that is shown on pages A-10 and C-1 is a result of the asset recognition method that phases in gains and losses over a five-year period.
- Increases in the covered population.
- ERI liabilities.
- Revised assumptions in conjunction with the 1999-2001 Experience Study

The Actuarial Value of Assets exceeds the Market Value this year by \$3.3 billion (about 24% of Market Value). Detail is given on page C-1. This means that over the next four years, investment return of \$3.3 billion above the assumed rate will be needed to prevent losses from being recognized in the valuation. Losses lead to higher contribution rates.

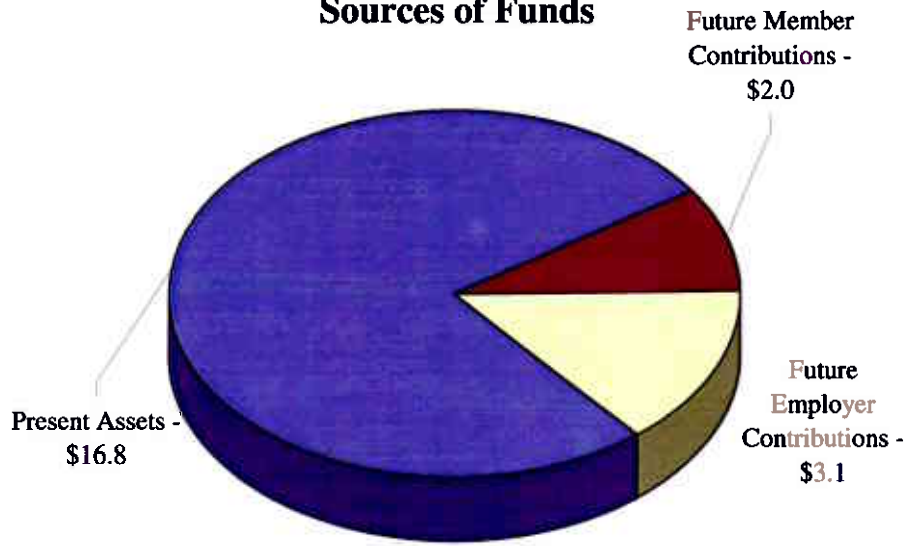
Section A of this report describes this year's valuation results in depth.

SECTION A

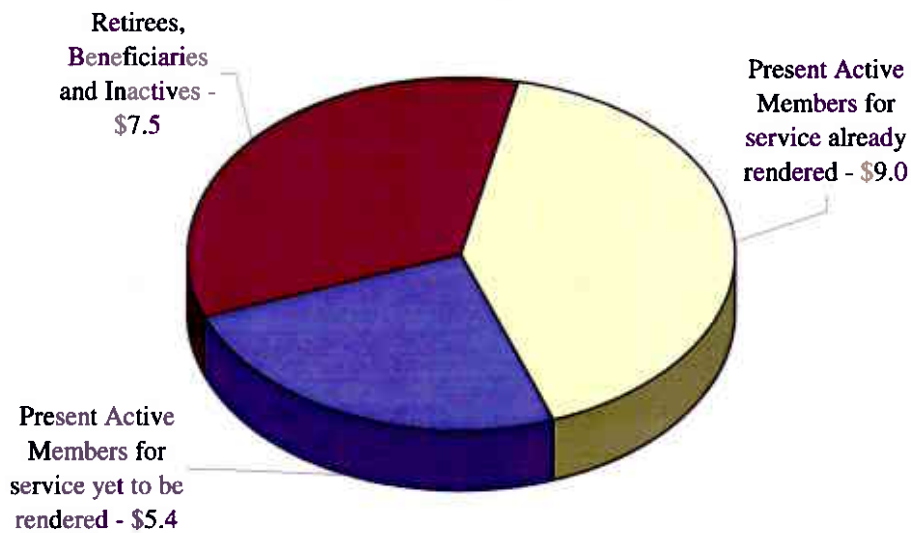
Valuation Results

**FINANCING \$21.9 BILLION WORTH OF BENEFIT PROMISES
TO PRESENT MEMBERS, RETIREES AND BENEFICIARIES
DECEMBER 31, 2002
(AMOUNTS IN \$BILLIONS)**

Sources of Funds



IMRF Obligations



ACTUARIAL BALANCE SHEET
DECEMBER 31, 2002

| | Funding Sources | | | |
|---------------------------------|-------------------------|-------------------------|-----------------------|-------------------------|
| | Regular | SLEP | ECO | Total |
| Present Valuation Assets | | | | |
| Member Contributions | \$ 2,792,239,371 | \$ 166,839,296 | \$ 14,263,534 | \$ 2,973,342,201 |
| Employer Assets | 4,239,523,904 | 211,250,896 | (1,511,564) | 4,449,263,236 |
| Retired Life Assets | 5,644,029,278 | 353,470,795 | 53,382,343 | 6,050,882,416 |
| Market Value Adjustment | 3,115,895,894 | 179,236,035 | 14,450,694 | 3,309,582,623 |
| Death and Disability Reserves | | | | 17,125,028 |
| Total Present Assets | 15,791,688,447 | 910,797,022 | 80,585,007 | 16,800,195,504 |
| Future Assets | | | | |
| Member Contributions | 1,855,886,172 | 125,056,302 | 9,107,466 | 1,990,049,940 |
| Employer Contributions | | | | |
| Normal Costs | 3,134,385,434 | 239,915,708 | 22,076,492 | 3,396,377,634 |
| Unfunded Liability | (450,591,059) | 103,442,885 | 106,859,972 | (240,288,202) |
| Total Employer | 2,683,794,375 | 343,358,593 | 128,936,464 | 3,156,089,432 |
| Total Future Assets | 4,539,680,547 | 468,414,895 | 138,043,930 | 5,146,139,372 |
| Total Funding Sources | \$20,331,368,994 | \$ 1,379,211,917 | \$ 218,628,937 | \$21,946,334,876 |

| | Funding Uses | | | |
|--------------------------------------|-------------------------|-------------------------|-----------------------|-------------------------|
| | Regular | SLEP | ECO | Total |
| Funds Needed for | | | | |
| Active Members | \$13,248,914,499 | \$ 982,076,640 | \$ 148,862,199 | \$14,379,853,338 |
| Inactive Members | 1,438,425,217 | 43,664,482 | 16,384,395 | 1,498,474,094 |
| Retirees and Beneficiaries | 5,644,029,278 | 353,470,795 | 53,382,343 | 6,050,882,416 |
| Death and Disability Benefits | | | | 17,125,028 |
| Total Actuarial Present Value | \$20,331,368,994 | \$ 1,379,211,917 | \$ 218,628,937 | \$21,946,334,876 |

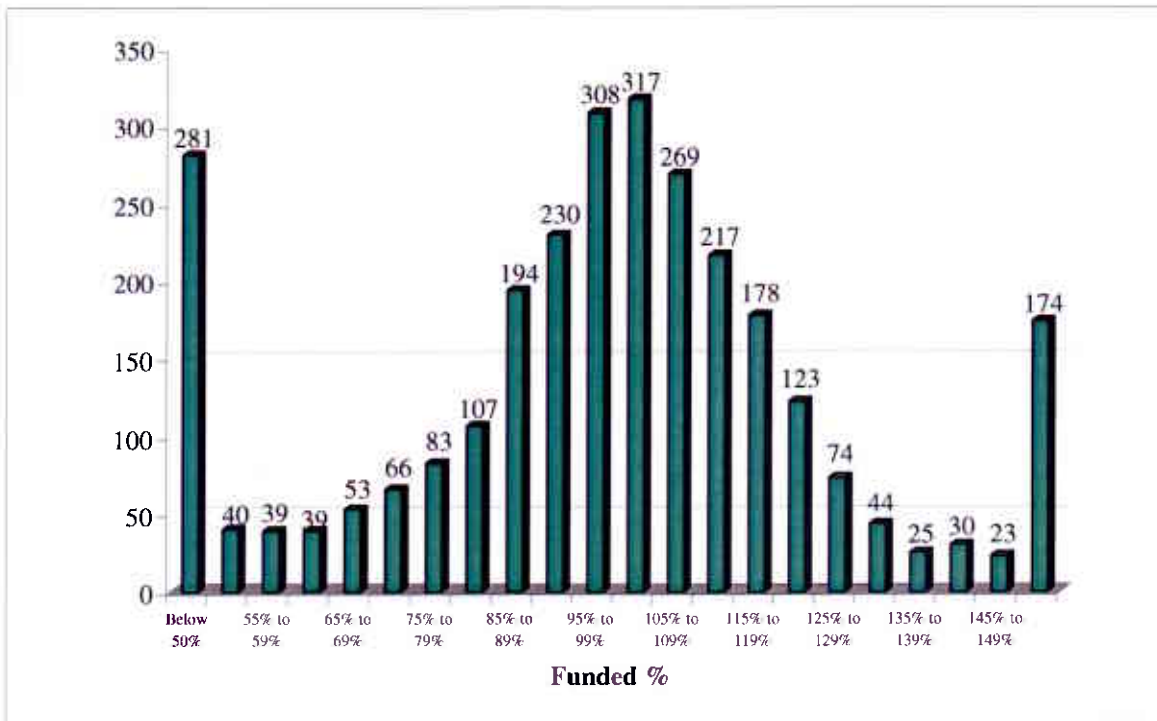
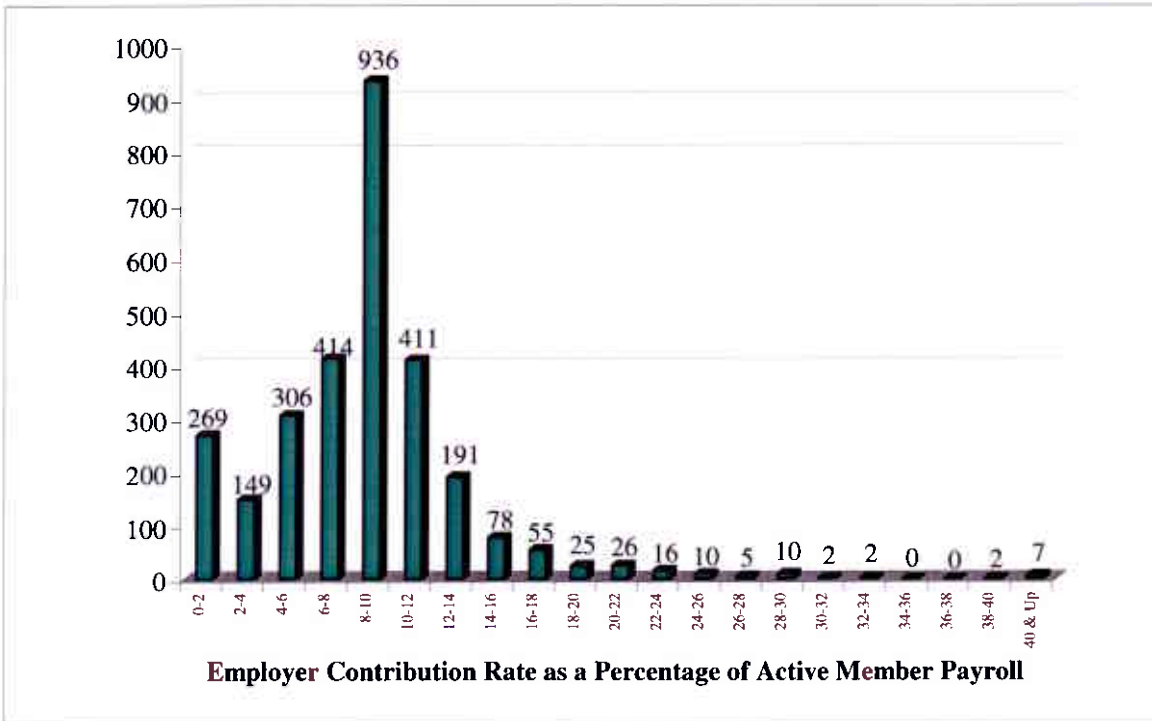
**DEVELOPMENT OF AVERAGE CONTRIBUTION RATES
 APPLICABLE TO CALENDAR YEAR 2004
 (RESULTS AS OF DECEMBER 31, 2002)**

| | % of Active Member Pays | | |
|--|-------------------------|----------------|----------------|
| | Regular | SLEP | ECO |
| Average Employer Contributions for | | | |
| Normal Cost | 7.60 % | 12.47 % | 18.18 % |
| Lump Sum Death in Service Benefits | 0.19 % | 0.19 % | 0.18 % |
| Temporary Disability | 0.19 % | 0.19 % | 0.19 % |
| 13th Checks | 0.62 % | 0.62 % | 0.62 % |
| Unfunded (Overfunded) Liabilities (28/5 years) | (1.01)% | 2.64 % | 25.70 % |
| Early Retirement Incentive Liabilities | 0.23 % | 0.18 % | 0.03 % |
| Total Average Employer Rate | 7.82 % | 16.29 % | 44.90 % |
| Prior Year Averages | 6.22 % | 14.04 % | 40.37 % |

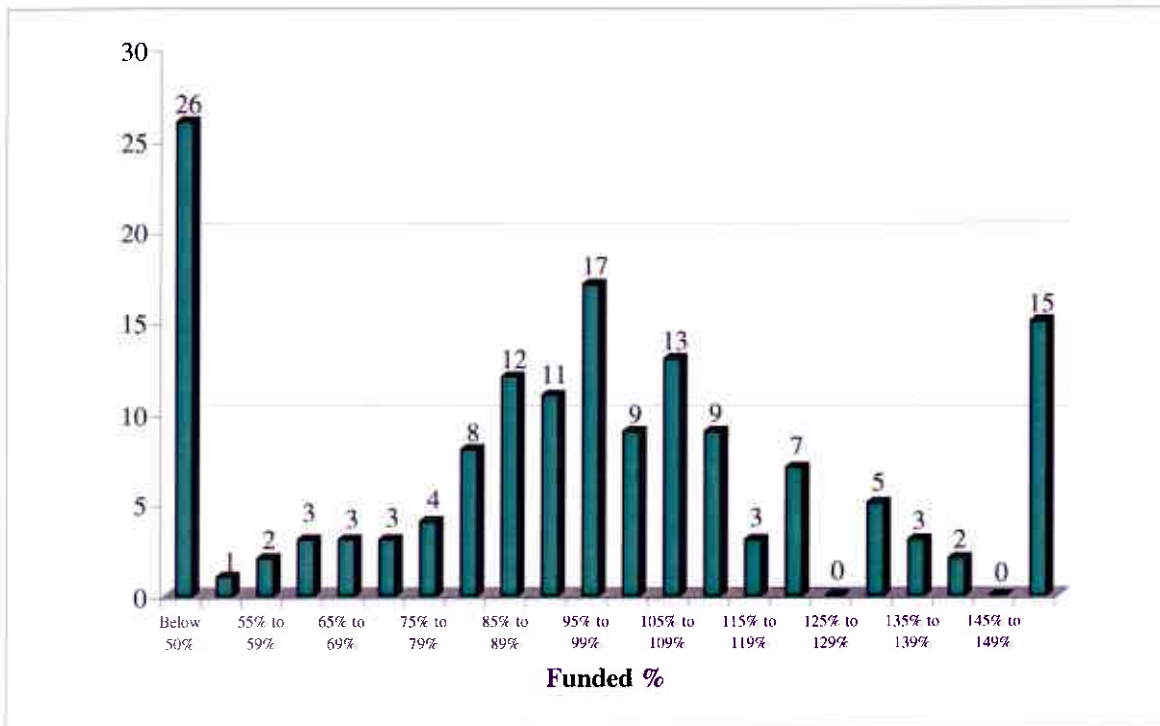
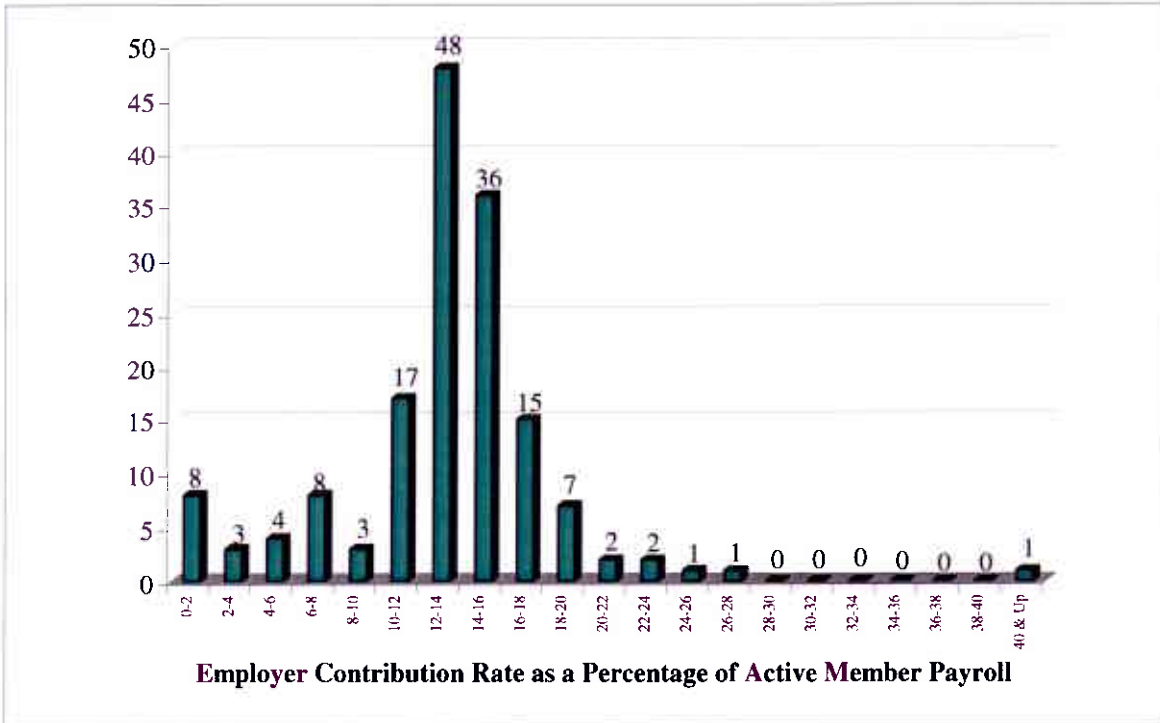
Each participating employer pays the same normal cost rate and the same rate for temporary disability benefits and 13th checks. Rates for lump sum death-in-service benefits, unfunded (overfunded) liabilities, and early retirement incentive liabilities are separately determined for each employer, and can vary widely. Because of this, the average contribution rates tell only part of the story. Pages A-4 through A-7 show the distribution of computed employer contribution rates, funding percents, and rate changes from the prior year among the 2,914 Regular plans, 156 SLEP plans and 66 ECO plans. IMRF staff reviews all of the computed rates and in some cases may make adjustments to those rates that are not reflected in this report. While most contribution rates are near the average, some employer rates are below 1% and some are over 40% of payroll.

Employer contributions made during calendar year 2002 amounted to \$295 million, which was approximately 100% of the amount that had been computed in the 2000 valuation. In particular, for each of the last two years actual contributions have been at least 90% of the actuarially computed rates.

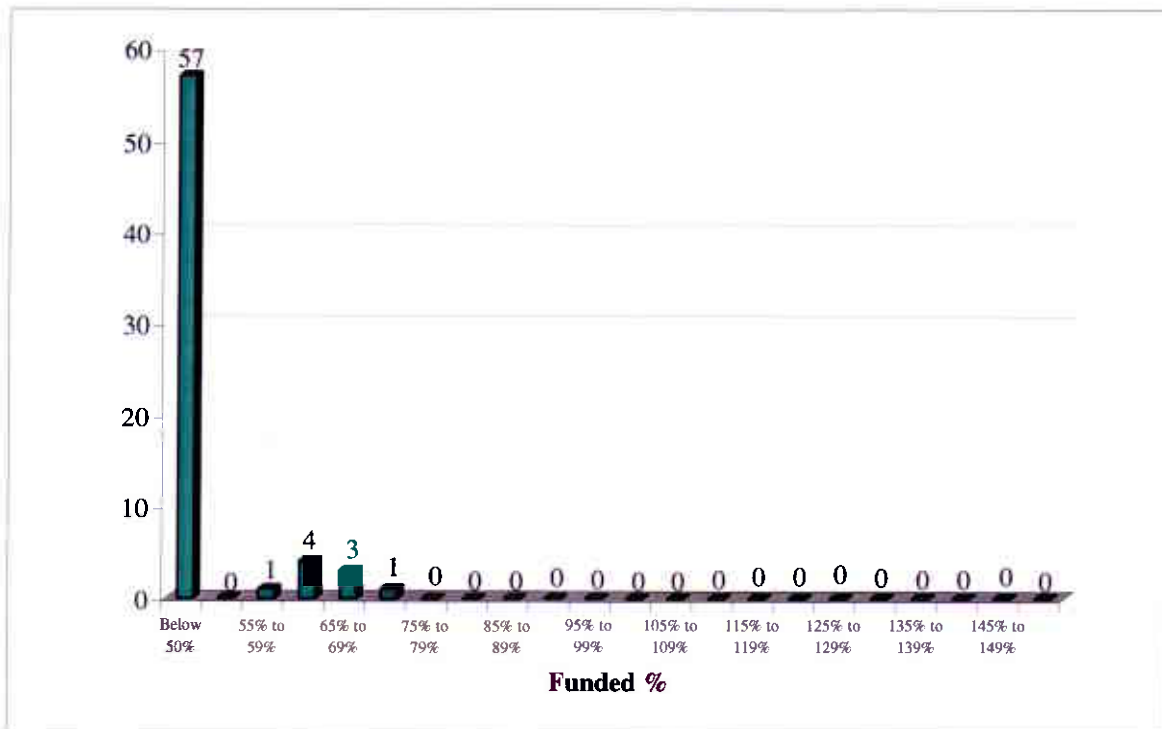
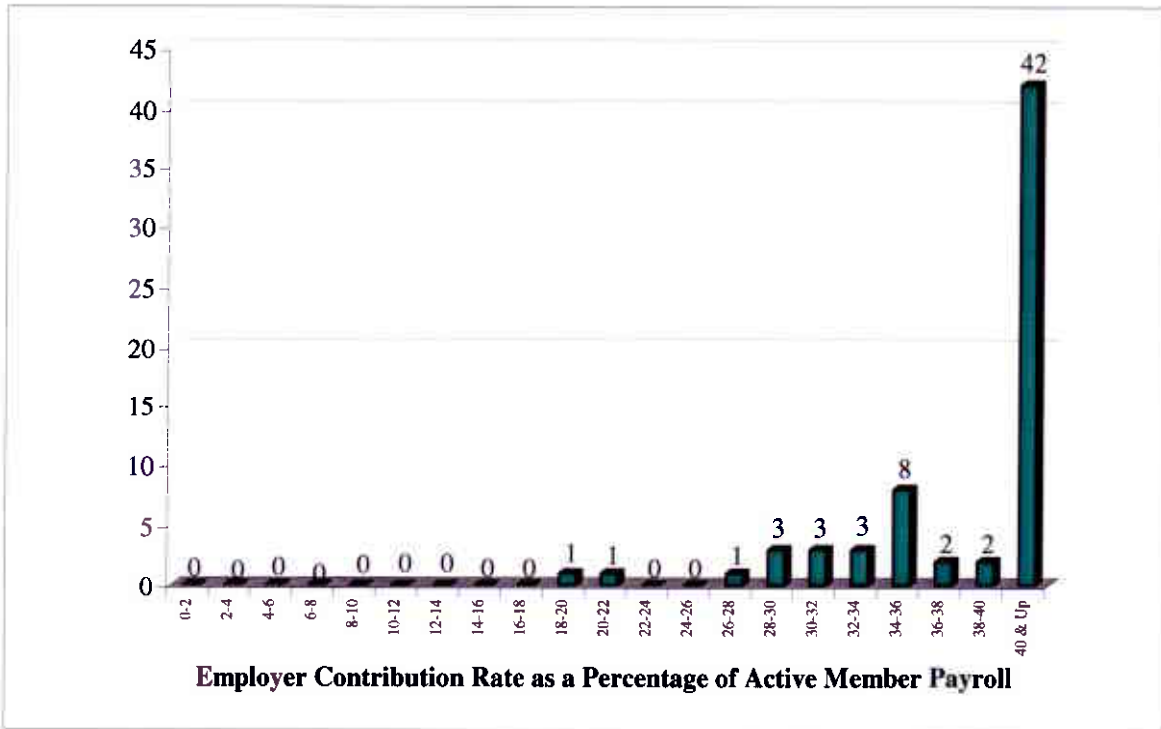
EMPLOYER CONTRIBUTION RATES AND FUNDED PERCENTS 2,914 REGULAR EMPLOYERS AT DECEMBER 31, 2002



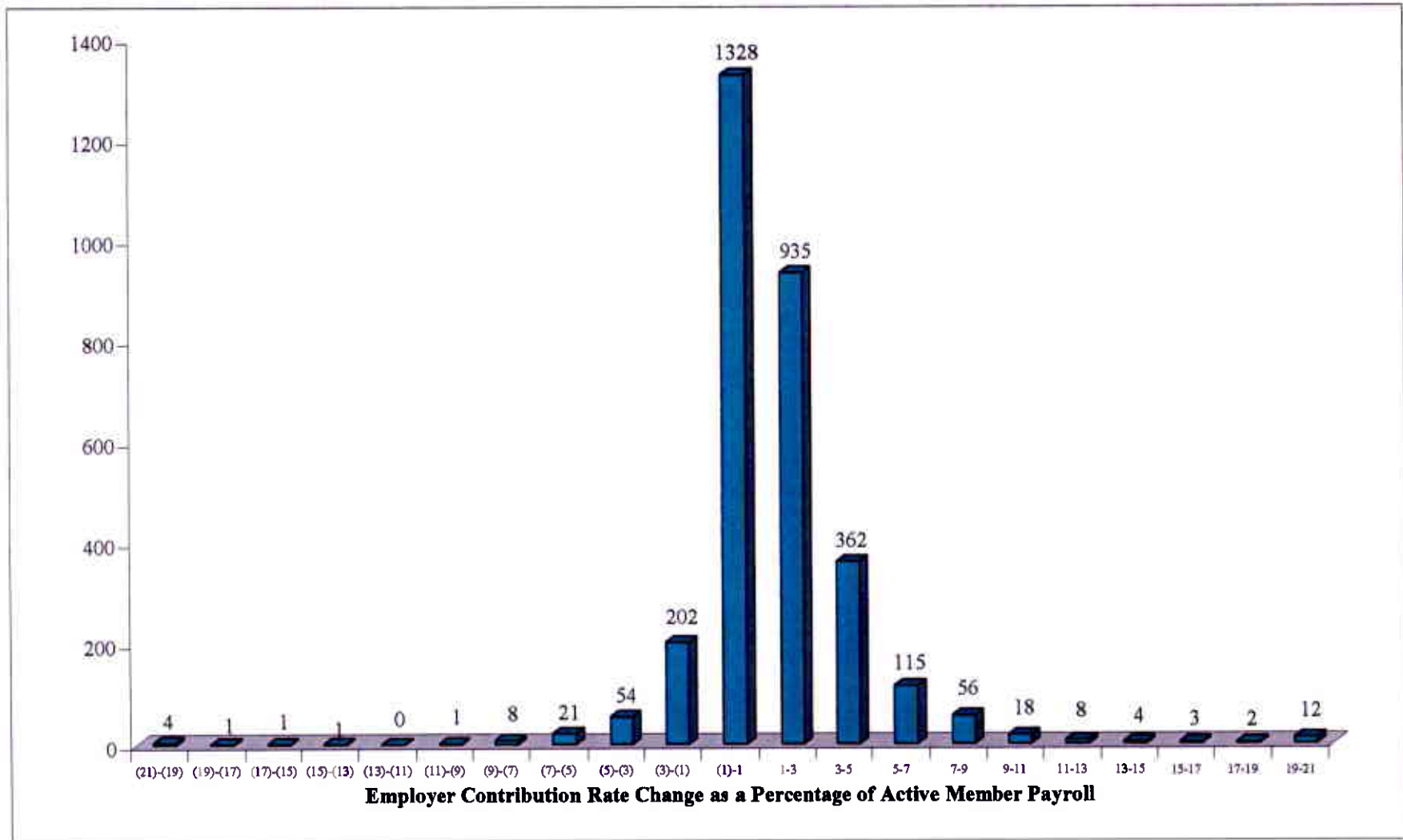
EMPLOYER CONTRIBUTION RATES AND FUNDED PERCENTS 156 SLEP EMPLOYERS AT DECEMBER 31, 2002



EMPLOYER CONTRIBUTION RATES AND FUNDED PERCENTS 66 ECO EMPLOYERS AT DECEMBER 31, 2002



EMPLOYER CONTRIBUTION RATE CHANGES - 2002 ACTUARIAL VALUATIONS 3,136 EMPLOYERS



HISTORICAL SUMMARY OF EMPLOYER RATES

| Rate Applies to Calendar Year | Rate Computed as of December 31 | Employer Contribution Rate Expressed as % of Active Payroll | | | | | |
|-------------------------------|---------------------------------|--|--------------------|--------------|--------------------|-------------|--------------------|
| | | Regular Members | | SLEP Members | | ECO Members | |
| | | Normal Cost | Average Total Rate | Normal Cost | Average Total Rate | Normal Cost | Average Total Rate |
| 1983 | 1981* | 2.88% | 6.58% | 3.56% | 6.20% | | |
| 1984 | 1982 | 2.97% | 6.55% | 3.90% | 6.22% | | |
| 1985 | 1983 | 3.57% | 7.35% | 4.92% | 7.03% | | |
| 1986 | 1984* | 2.59% | 7.52% | 3.93% | 6.46% | | |
| 1987 | 1985 | 2.61% | 7.34% | 4.28% | 6.66% | | |
| 1988 | 1986 | 2.51% | 7.29% | 4.40% | 7.11% | | |
| 1989 | 1987*# | 6.94% | 12.17% | 7.93% | 13.01% | | |
| 1990 | 1988 | 6.94% | 11.79% | 7.90% | 12.53% | | |
| 1991 | 1989 | 6.94% | 11.60% | 7.88% | 12.02% | | |
| 1992 | 1990* | 8.24% | 11.89% | 10.31% | 14.01% | | |
| 1993 | 1991*# | 7.04% | 10.58% | 8.49% | 12.01% | | |
| 1994 | 1992 | 7.33% | 10.77% | 8.87% | 11.82% | | |
| 1995 | 1993* | 7.22% | 10.19% | 9.50% | 12.00% | | |
| 1996 | 1994 | 7.22% | 9.98% | 9.51% | 11.97% | | |
| 1997 | 1995 | 7.27% | 9.61% | 9.32% | 11.43% | | |
| 1998 | 1996* | 7.21% | 9.64% | 10.22% | 13.94% | | |
| 1999 | 1997! | 7.23% | 9.03% | 10.62% | 14.65% | 21.48% | 36.14% |
| 2000 | 1998 | 7.17% | 8.16% | 10.42% | 14.28% | 23.39% | 41.38% |
| 2001 | 1999* | 7.41% | 6.64% | 12.02% | 14.86% | 23.85% | 42.58% |
| 2002 | 2000 | 7.62% | 5.87% | 11.94% | 14.13% | 18.05% | 38.46% |
| 2003 | 2001 | 7.66% | 6.22% | 11.96% | 14.04% | 17.95% | 40.37% |
| 2004 | 2002* | 7.60% | 7.82% | 12.47% | 16.29% | 18.18% | 44.90% |

* Assumption change.

Benefit change

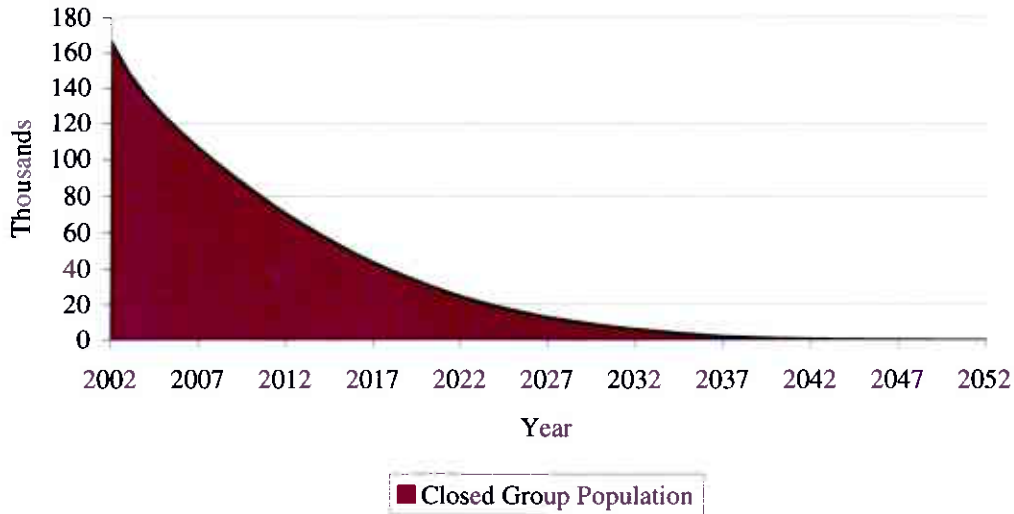
As shown above, the average employer contribution rates increased this year for all employers. The rate increases are primarily due to the gradual recognition of investment losses under the asset valuation method. Generally, small fluctuations from year to year should be expected, for the average rate and for any large employer's rate. Small and very small employers will experience larger variations.

Forty-two percent of employers experienced a rate change of less than 1% of payroll. Forty-eight percent of employers experienced a rate increase of greater than 1%. Of those, the majority were in the 1% to 3% increase range (please see page A-7).

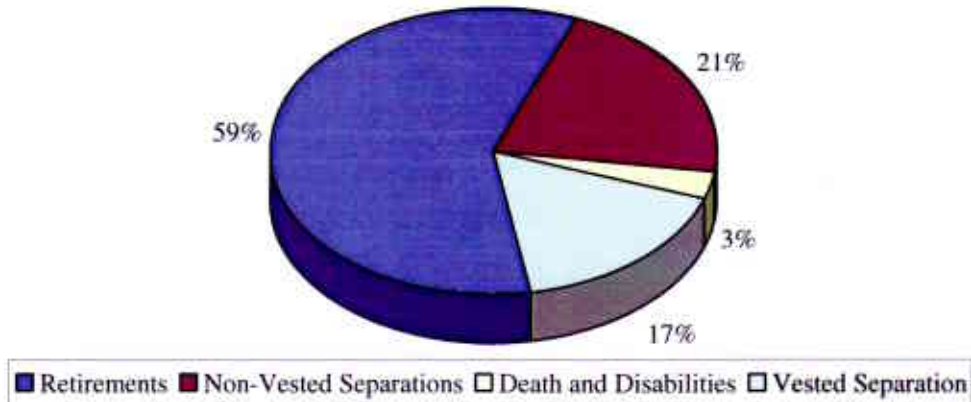
Most of the larger changes were for small employers (often employers covering only 1 or 2 employees), since the removal or addition of 1 employee can significantly impact the contribution rate. The actuary and IMRF staff review all of the large rate changes individually in order to determine the reasonableness of the change. In some cases, rates may be changed.

EXPECTED DEVELOPMENT OF PRESENT POPULATION DECEMBER 31, 2002

Closed Group Population Projection



Expected Terminations from Active Employment For Current Active Members



The charts show the expected future development of the present population in simplified terms. The retirement system presently covers 166,365 active members. Eventually, 21% of the population is expected to terminate covered employment prior to retirement and forfeit eligibility for a monthly benefit. About 76% of the present population is expected to receive monthly retirement benefits either by retiring directly from active service, or by retiring from vested deferred status. Three percent of the present population is expected to become eligible for death-in-service or disability benefits. **Within 9 years, over half of the covered membership is expected to consist of new hires.**

**UNFUNDED ACTUARIAL ACCRUED LIABILITIES
DEVELOPMENT DURING 2002**

In a retirement system such as IMRF, where unfunded liabilities are being amortized as a level percent of active member payroll, unfunded liabilities are expected to rise in dollar amount for an extended period before finally beginning to decrease. This has to do with inflation and the related fact that the dollar is a yardstick whose length changes every year. However, this year, the phase in of investment losses has caused unfunded liabilities to increase both in dollar amount, and in percent of payroll. The schedule below illustrates the development of the unfunded liability, based upon actuarial value of assets, during the year.

| | Unfunded Liability Development During | |
|--|--|-------------------|
| | 2002 | 2001 |
| Unfunded (Overfunded) Liability January 1 | \$(986,504,690) | \$(1,016,313,489) |
| Assumed Net (Payments) Credits | 127,063,125 | 140,207,051 |
| Assumed Interest | (69,280,407) | (71,029,128) |
| Expected Unfunded Liability December 31 | (928,721,972) | (947,135,566) |
| Change Due to Experience Study | 30,592,102 | 0 |
| Change Due to Investment Experience | 611,753,696 | (69,378,457) |
| Change Due to Other Sources | 46,087,972 | 30,009,333 |
| Actual Unfunded (Overfunded) Liability December 31 | \$(240,288,202) | \$(986,504,690) |

**UNFUNDED ACTUARIAL ACCRUED LIABILITIES
COMPARATIVE STATEMENT**

| Valuation Date | (1) Actuarial Accrued Liabilities (AAL) | (2) Valuation Assets | (3) Unfunded AAL | (4) Valuation Payroll | (5) Funded Ratio (2)/(1) | (6) Unfunded/ Payroll (3)/(4) |
|----------------|---|----------------------------|------------------------|-----------------------------|-----------------------------------|--|
| 1983 | \$2,780,217,771 | \$1,821,146,853 | \$959,070,918 | \$1,487,069,292 | 65.5% | 64.5% |
| 1984* | 3,261,944,379 | 1,944,694,044 | 1,317,250,335 | 1,551,980,698 | 59.6% | 84.9% |
| 1985 | 3,609,515,653 | 2,248,747,268 | 1,360,768,385 | 1,660,500,587 | 62.3% | 81.9% |
| 1986 | 3,958,462,273 | 2,487,488,403 | 1,470,973,870 | 1,768,254,219 | 62.8% | 83.2% |
| 1987*# | 4,516,366,654 | 2,757,918,614 | 1,758,448,040 | 1,869,513,284 | 61.1% | 94.1% |
| 1988 | 4,941,412,403 | 3,139,563,467 | 1,801,848,936 | 1,998,362,932 | 63.5% | 90.2% |
| 1989 | 5,429,420,300 | 3,589,732,873 | 1,839,687,427 | 2,141,472,213 | 66.1% | 85.9% |
| 1990* | 6,234,602,259 | 4,468,795,967 | 1,765,806,292 | 2,303,544,906 | 71.7% | 76.7% |
| 1991*# | 6,406,965,450 | 5,034,577,441 | 1,372,388,009 | 2,491,859,698 | 78.6% | 55.1% |
| 1992 | 6,954,483,358 | 5,615,583,858 | 1,338,899,500 | 2,634,441,716 | 80.7% | 50.8% |
| 1993* | 7,509,766,239 | 6,396,329,900 | 1,113,436,339 | 2,709,280,078 | 85.2% | 41.1% |
| 1994 | 8,126,642,830 | 7,078,861,925 | 1,047,780,905 | 2,946,519,940 | 87.1% | 35.6% |
| 1995 | 8,823,697,487 | 8,034,030,783 | 789,666,704 | 3,095,916,750 | 91.1% | 25.5% |
| 1996* | 9,778,592,519 | 9,076,261,663 | 702,330,856 | 3,084,086,668 | 92.8% | 22.8% |
| 1997 | 10,807,969,067 | 10,273,116,034 | 534,853,033 | 3,454,621,933 | 95.1% | 15.5% |
| 1998 | 11,860,879,198 | 11,636,495,534 | 224,383,665 | 3,696,047,942 | 98.1% | 6.1% |
| 1999* | 13,005,023,293 | 13,520,192,111 | (515,168,818) | 3,952,129,535 | 104.0% | - |
| 2000 | 14,153,055,774 | 15,169,369,271 | (1,016,313,497) | 4,184,702,169 | 107.2% | - |
| 2001 | 15,318,517,575 | 16,305,022,254 | (986,504,679) | 4,503,092,615 | 106.4% | - |
| 2002 | 16,529,315,200 | 16,800,195,504 | (270,880,304) | 4,755,103,888 | 101.6% | - |
| 2002* | 16,559,907,302 | 16,800,195,504 | (240,288,202) | 4,755,103,888 | 101.5% | - |

* Assumption change.

Benefit change

While no one or two numeric indices can fully describe the financial condition of a retirement system, trends in both the Funded Ratio (column 5) and the Unfunded/Payroll Ratio (column 6) provide useful information. Unfunded accrued liabilities represent plan debt, while active member payroll represents the plan's capacity to service the debt. In a retirement system that is following the discipline of level percent of payroll financing, the Funded Ratio should gradually move toward 100% and the Unfunded/Payroll ratio should gradually move toward 0%.

SHORT CONDITION TEST

If the contributions to IMRF are level in concept and soundly executed, the System will *pay all promised benefits when due -- the ultimate test of financial soundness*. Testing for level contribution rates is the *long-term test*.

A *short condition test* is one means of checking a system's progress under its funding program. In a short condition test, the plan's present assets (cash and investments) are compared with:

- 1) Member contributions on deposit;
- 2) The liabilities for future benefits to present retired lives;
- 3) The liabilities for service already rendered by active and inactive members.

In a system that has been following the discipline of level percent of payroll financing, the liabilities for member contributions on deposit (liability 1) and the liabilities for future benefits to present retired lives (liability 2) will be fully covered by present assets (except in rare circumstances). In addition, the liabilities for service already rendered by active and inactive members (liability 3) will be partially covered by the remainder of present assets. The larger the funded portion of liability 3, the stronger the condition of the system.

Short Condition Test

| Calendar Year | Aggregate Actuarial Liabilities For | | | Actuarial Assets | Portion of Actuarial Liabilities covered by Assets | | |
|---------------|-------------------------------------|----------------------|---|-----------------------|--|-------------|---------------|
| | (1) | (2) | (3) | | (1) | (2) | (3) |
| | Non-Retired Contributions | Annuitants | Non-Retired Members (Employer Financed Portion) | | | | |
| 1990* | \$ 986,213,859 | \$ 2,111,742,303 | \$3,134,267,510 | \$ 4,468,795,967 | 100% | 100% | 43.7% |
| 1991*# | 1,095,888,522 | 2,217,253,547 | 3,093,823,381 | 5,034,577,441 | 100% | 100% | 55.6% |
| 1992 | 1,218,238,446 | 2,421,564,751 | 3,314,680,161 | 5,615,583,858 | 100% | 100% | 59.6% |
| 1993* | 1,350,831,396 | 2,660,823,087 | 3,498,111,756 | 6,396,329,900 | 100% | 100% | 68.2% |
| 1994 | 1,496,014,554 | 2,907,982,455 | 3,722,645,821 | 7,078,861,925 | 100% | 100% | 71.9% |
| 1995 | 1,642,362,193 | 3,171,162,151 | 4,010,173,143 | 8,034,030,783 | 100% | 100% | 80.3% |
| 1996* | 1,782,293,677 | 3,588,320,471 | 4,407,978,361 | 9,076,261,663 | 100% | 100% | 84.1% |
| 1997 | 1,933,512,014 | 3,995,946,514 | 4,878,510,539 | 10,273,116,034 | 100% | 100% | 89.0% |
| 1998 | 2,086,679,470 | 4,485,651,306 | 5,288,548,422 | 11,636,495,534 | 100% | 100% | 95.8% |
| 1999* | 2,259,446,274 | 4,915,459,683 | 5,830,117,336 | 13,520,192,111 | 100% | 100% | 108.8% |
| 2000 | 2,473,646,891 | 5,284,275,174 | 6,395,133,709 | 15,169,369,271 | 100% | 100% | 115.9% |
| 2001 | 2,708,833,984 | 5,613,708,283 | 6,995,975,308 | 16,305,022,254 | 100% | 100% | 114.1% |
| 2002 | 2,950,041,671 | 6,044,394,889 | 7,534,878,640 | 16,800,195,504 | 100% | 100% | 103.6% |
| 2002* | 2,950,041,671 | 6,050,882,416 | 7,558,983,215 | 16,800,195,504 | 100% | 100% | 103.2% |

* Assumption change.

Benefit change.

SECTION B

Summary of Benefit Provisions and Valuation Data

SUMMARY OF BENEFITS AND CONDITIONS EVALUATED

DECEMBER 31, 2002

Participating Employers.

All counties and school districts, plus cities and villages and incorporated towns with a population of 5,000 or more (except certain governmental entities specifically excluded by the Pension Code). Other local government units may elect to participate.

Membership.

All appointed employees of a participating employer who are employed in a position normally requiring 600 hours (1,000 hours for certain employees hired after 1981) or more of work in a year. Elected officials and hospital employees who satisfy requirements may also participate.

Final Rate of Earnings (FRE).

Retirement and Survivor Annuities: Regular and SLEP Members: The average of earnings during the 48 consecutive month period within the last 10 years of IMRF service in which earnings were the highest. Earnings considered for each of the last 3 months cannot exceed the highest earnings in any of the first 45 months by more than 25%. Minimum FRE is \$125 per month. *ECO Members:* Original ECO Plan: Salary rate at date of termination or retirement. Revised Plan: Average of last four years for each office held.

Death Benefits: The greater of the above amount or the average of earnings over the last 12 months of service.

Disability Benefits: The average of earnings over the last 12 months of service. (for ECO members, annualized salary on last day of ECO participation)

Normal Retirement Pension Eligibility.

Regular Members: Age 60 with 8 or more years of service or 35 or more years of service and age 55 or greater.

SLEP Members: Age 50 with 20 or more years of SLEP service.

ECO Regular Members: Age 55 with 8 or more years of service.

ECO SLEP Members: Age 50 with 20 or more years of SLEP service or age 55 with 8 or more years of any service.

Normal Retirement Pension Amount.

Regular Members: 1-2/3% of FRE times each of the first 15 years of service, plus 2% of FRE times service over 15 years.

SLEP Optional Formula: 2-1/2% of FRE times each of the first 20 years of SLEP service, plus 2% of FRE times service over 20, but less than 30 years, plus 1% of FRE times service over 30 years.

Maximum Formula Pension: 75% of FRE.

ECO Members: 3% of FRE times each of the first 8 years of service, plus 4% of FRE times each of the next 4 years of service, plus 5% of FRE times service over 12 years. For original ECO participants, one day of ECO service is required to qualify for this formula. For participants in the Revised Plan, 8 years of service credit per office is required to qualify for the ECO formula for that office.

Maximum ECO Formula Pension: 80% of FRE.

Money Purchase Minimum Pension: The amount that may be purchased by 2.4 times the member's accumulated contributions, including interest.

Early Retirement (not applicable to SLEP optional benefits or to ECO service).

Eligibility: Attainment of age 55 with 8 or more years of service.

Amount: Normal pension amount reduced by 1/4% times the lesser of (i) the number of months to the member's attainment of age 60, or (ii) the number of months actual service is less than 35 years.

SUMMARY OF BENEFITS AND CONDITIONS EVALUATED
DECEMBER 31, 2002
(CONTINUED)

Vesting.

A member with 8 or more years of service who leaves employment before being eligible for an immediate pension who does not withdraw accumulated contributions will be entitled to a deferred pension at pension eligibility. The amount of the pension will be based on service and FRE at time of employment termination. (These provisions apply to both ECO and non-ECO members.)

Surviving Spouse Pension.

Regular and SLEP

Eligibility: Married for one year prior to death of an active member or date of termination of service for a retiree or inactive member over age 55 with 8 or more years of service.

Amount: 50% of the pension otherwise payable to the deceased member. If spouse is more than 5 years younger than the deceased member, the pension is actuarially reduced. In addition to this monthly amount, a lump sum benefit of \$3,000 is payable.

ECO

Eligibility: Married at date of termination and for one year immediately preceding death.

Amount: 66 2/3% of the pension otherwise payable to the deceased member, beginning at age 50 (immediately if there are minor children).

Minimum: 10% of salary (30% with one minor child, 40% with two minor children, and 50% with three minor children).

If death occurs after termination of service, the total payment to the spouse and children is limited to 75% of the member's pension.

Lump Sum Death-In-Service Benefit.

Less than 1 year of service: Member contributions plus interest.

More than 1 year of service (or death in the line of duty): The sum of one times FRE and member contributions with interest.

These benefits are payable only if no surviving spouse pension is payable.

Lump Sum Death-After Retirement Benefit.

\$3,000. If there is no surviving spouse, any remainder of the deceased member's contributions and interest not paid out as a pension is also payable.

Children's Benefits.

Regular and SLEP

Eligibility: Death of a member eligible to retire who has no surviving spouse, or death of a surviving spouse beneficiary.

Amount: Equal to spouse pension, divided equally among surviving children and payable to age 18.

ECO

Eligibility: Death of a member with minor children and no eligible spouse.

Amount: 20% of salary to each child, to a maximum of 50% of salary, payable to age 18.

If death occurs after termination of service, the total payment to the surviving spouse and children is limited to 75% of the member's pension.

SUMMARY OF BENEFITS AND CONDITIONS EVALUATED
DECEMBER 31, 2002
(CONCLUDED)

Temporary Disability.

Eligibility: Temporary disability for at least 30 days after one year of service and prior to age 70. Pre-existing conditions are excluded if service is under 5 years.

Amount: 50% of FRE less amounts payable from Social Security or Worker's Compensation.

Duration: Period equal to 1/2 credited service, not to exceed 30 months.

Total and Permanent Disability.

Regular and SLEP

Eligibility: Payable after temporary disability period to members who are totally and permanently disabled and unable to engage in any gainful occupation.

Amount: 50% of FRE less amounts payable by Social Security.

ECO

Eligibility: Payable to members who are totally and permanently disabled from performing the duties of their office while in service as an elected county officer.

Amount: The greater of 50% of FRE or the alternate formula pension amount earned to date.

Duration: To the later of (i) age 60, or (ii) age at disability plus 5 years.

IMRF service is credited during the disability period, except that under the revised ECO plan, the service that will be credited will be Regular or SLEP as appropriate, but not ECO.

Post-Retirement Increases.

Pensions are increased by 3% of their original amount on January 1 each year. The first increase is prorated by the number of months of retirement. Disability pensions are not increased until the January 1st following 30 months of disability. These provisions apply to both ECO and non-ECO members.

13th Check.

A lump sum payment is made to retirees and surviving spouses on July 1st. The amount depends on funds available from a designated employer contribution of 0.62% of payroll. No specific 13th check amount is promised to any individual.

Member Contributions.

Regular Members: 4 1/2% of earnings (3-3/4% base plus 3/4% for survivor benefits).

SLEP Members: 6 1/2% of earnings (5-3/4% base plus 3/4% for survivor benefits).

Additional: Up to 10% of earnings.

ECO Members: (a) Past service: Regular members pay an additional 3% of the salary for the applicable period plus interest from the date of service to the payment date. SLEP members pay an additional 1% of salary for the applicable period plus interest from the date of service to the payment date. (The total rate is 7 1/2% for each past year purchased plus interest.)

(b) Future service: 7 1/2% of earnings during the period of elective participant. (Note: Continued classification as an ECO member is not a condition for continued elective participation in the ECO program for participants in the original ECO Plan.)

Refunds: If membership terminates without eligibility for any other benefit, a refund of base and survivor contributions without interest plus accumulated additional contributions with interest is payable. Upon retirement of a member who does not have an eligible spouse, survivor benefit contributions are refunded.

**SUMMARY OF COVERED POPULATION DATA
DECEMBER 31, 2002**

Data on persons covered by IMRF was reported to the Actuary as follows:

| Member Status | No. | Valuation Payroll | Average | | |
|--------------------------|----------------|------------------------|-----------------|-------------|------------|
| | | | Pay | Age | Service |
| Active Members | | | | | |
| Regular | 161,923 | \$4,543,453,470 | \$28,059 | 45.4 | 8.4 |
| SLEP | 3,889 | 189,588,773 | 48,750 | 40.1 | 11.0 |
| ECO | 553 | 22,061,645 | 39,894 | 53.3 | 11.5 |
| Total Active | 166,365 | \$4,755,103,888 | \$28,582 | 45.3 | 8.5 |
| Inactive Members | | | | | |
| Regular | 142,245 | | | 45.2 | 4.3 |
| Slep | 914 | | | 43.5 | 9.0 |
| ECO | 149 | | | 52.5 | 10.1 |
| (Inactive and Active) | (29,784) | | | | |
| Total Inactive | 113,524 | | | 45.2 | 4.3 |
| Retirees & Beneficiaries | 74,008 | \$575,007,000 | \$7,770 | 72.8 | |
| Total Population | 353,897 | | | | |
| Prior Year Total | 343,842 | | | | |

Additional population statistics are presented on the following pages.

ACTIVE MEMBERS BY EMPLOYER TYPE
DECEMBER 31, 2002
REGULAR, SLEP, ECO COMBINED

| Type of Employer | Rate Groups | Members | | | Payroll |
|--|----------------|----------------|---------------|-----------------------|-------------------------|
| | | Number | % of Total | Cumulative Percent | |
| School Districts | 890 | 75,727 | 45.5% | 45.5% | \$ 1,612,916,862 |
| Counties (Regular,SLEP,ECO) | 268 | 31,708 | 19.1% | 64.6% | 1,056,672,493 |
| Cities | 280 | 20,031 | 12.0% | 76.6% | 762,788,138 |
| Villages | 402 | 14,931 | 9.0% | 85.6% | 612,625,720 |
| Park Districts | 187 | 6,635 | 4.0% | 89.6% | 210,022,787 |
| Special Ed Districts | 36 | 3,885 | 2.3% | 91.9% | 80,462,576 |
| Townships | 470 | 3,523 | 2.1% | 94.0% | 98,369,095 |
| Library Districts | 195 | 2,570 | 1.5% | 95.5% | 64,157,844 |
| Forest Preserve Districts | 13 | 960 | 0.6% | 96.1% | 34,289,042 |
| Sanitary Districts | 39 | 922 | 0.6% | 96.7% | 41,378,347 |
| Conservation Education Service Region | 29 | 761 | 0.5% | 97.2% | 16,678,598 |
| County Hospital Districts | 3 | 523 | 0.3% | 97.5% | 15,195,356 |
| Mass Transit District (Taxing Authority) | 3 | 474 | 0.3% | 97.8% | 16,008,708 |
| Towns | 5 | 468 | 0.3% | 98.1% | 18,168,562 |
| Intergovernmental Coop | 40 | 462 | 0.3% | 98.4% | 20,595,577 |
| Public Library Systems | 10 | 285 | 0.2% | 98.6% | 9,128,059 |
| Airport Authorities | 11 | 261 | 0.2% | 98.8% | 10,391,432 |
| Misc. Taxing Authority | 6 | 236 | 0.1% | 98.9% | 10,360,355 |
| Multi Co/Cons Health Dept. | 4 | 225 | 0.1% | 99.0% | 5,877,609 |
| Health Districts | 4 | 217 | 0.1% | 99.1% | 6,745,094 |
| Vocational Systems | 39 | 167 | 0.1% | 99.2% | 4,282,588 |
| Mass Transit Instrumentalities | 3 | 161 | 0.1% | 99.3% | 4,880,228 |
| Fire Protection Districts | 36 | 139 | 0.1% | 99.4% | 5,534,406 |
| Public Housing Authorities | 7 | 116 | 0.1% | 99.5% | 3,599,844 |
| Miscellaneous Instrumentalities | 11 | 113 | 0.1% | 99.6% | 4,926,225 |
| County Conservation Districts | 4 | 110 | 0.1% | 99.7% | 3,461,787 |
| Joint Spec Rec Assns | 9 | 95 | 0.1% | 99.8% | 3,295,275 |
| Joint Education Projects | 8 | 91 | 0.1% | 99.9% | 1,849,165 |
| Conservancy Districts | 4 | 85 | 0.1% | 100.0% | 2,885,704 |
| Special Ed Coop/Districts | 23 | 73 | 0.0% | 100.0% | 3,629,543 |
| Public Housing Commissions | 7 | 72 | 0.0% | 100.0% | 2,468,777 |
| County Road Districts | 37 | 65 | 0.0% | 100.0% | 1,339,572 |
| Tuberculosis Sanitarium District | 1 | 57 | 0.0% | 100.0% | 2,097,436 |
| Regional Planning Commission | 1 | 41 | 0.0% | 100.0% | 2,281,523 |
| Water Districts | 6 | 40 | 0.0% | 100.0% | 1,336,381 |
| Mosquito Abatement Districts | 7 | 35 | 0.0% | 100.0% | 1,467,210 |
| Water Supply/Sewer Commissions | 5 | 33 | 0.0% | 100.0% | 1,323,495 |
| Educ Serv Centers | 3 | 22 | 0.0% | 100.0% | 634,959 |
| ROE Office | 1 | 16 | 0.0% | 100.0% | 395,809 |
| Township Cemeteries | 15 | 16 | 0.0% | 100.0% | 288,394 |
| Multi Twp Assessment Districts | 13 | 11 | 0.0% | 100.0% | 166,874 |
| Drainage District | 1 | 3 | 0.0% | 100.0% | 126,439 |
| Employers with no Active Members | 234 | 0 | 0.0% | 100.0% | - |
| Totals | 3,370 | 166,365 | 100.0% | 100.0% | \$ 4,755,103,888 |

**ACTIVE REGULAR MEMBERS
BY ATTAINED AGE AND YEARS OF SERVICE
DECEMBER 31, 2002**

| Attained Ages | Years of Service to Valuation Date | | | | | | | Totals | |
|------------------|------------------------------------|---------------|---------------|---------------|--------------|--------------|--------------|----------------|------------------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 & Up | No. | Valuation Payroll |
| 15-19 | 529 | | | | | | | 529 | \$ 5,528,989 |
| 20-24 | 6,108 | 67 | | | | | | 6,175 | 119,427,379 |
| 25-29 | 9,043 | 1,356 | 43 | | | | | 10,442 | 267,891,745 |
| 30-34 | 8,297 | 3,352 | 1,101 | 45 | | | | 12,795 | 366,130,728 |
| 35-39 | 9,810 | 3,698 | 2,540 | 1,141 | 62 | | | 17,251 | 484,468,031 |
| 40-44 | 12,436 | 5,898 | 3,260 | 2,371 | 1,544 | 107 | | 25,616 | 711,684,308 |
| 45-49 | 11,214 | 6,791 | 4,438 | 2,686 | 2,375 | 1,312 | 67 | 28,883 | 836,201,629 |
| 50 | 1,696 | 1,277 | 935 | 567 | 396 | 321 | 84 | 5,276 | 159,431,015 |
| 51 | 1,691 | 1,123 | 1,056 | 632 | 384 | 343 | 116 | 5,345 | 161,789,810 |
| 52 | 1,473 | 1,129 | 921 | 660 | 409 | 358 | 137 | 5,087 | 154,469,692 |
| 53 | 1,409 | 972 | 943 | 606 | 408 | 291 | 141 | 4,770 | 147,357,421 |
| 54 | 1,261 | 863 | 951 | 659 | 416 | 302 | 157 | 4,609 | 140,724,374 |
| 55 | 1,155 | 919 | 818 | 675 | 424 | 254 | 163 | 4,408 | 135,043,071 |
| 56 | 1,263 | 843 | 879 | 755 | 464 | 227 | 166 | 4,597 | 137,829,233 |
| 57 | 811 | 572 | 588 | 507 | 352 | 181 | 106 | 3,117 | 93,210,299 |
| 58 | 823 | 537 | 546 | 467 | 369 | 167 | 93 | 3,002 | 88,740,422 |
| 59 | 808 | 543 | 566 | 496 | 336 | 176 | 90 | 3,015 | 88,667,941 |
| 60 | 794 | 565 | 547 | 528 | 398 | 204 | 103 | 3,139 | 90,656,551 |
| 61 | 648 | 485 | 405 | 413 | 314 | 189 | 80 | 2,534 | 72,471,438 |
| 62 | 527 | 412 | 340 | 330 | 264 | 150 | 72 | 2,095 | 59,243,991 |
| 63 | 380 | 347 | 263 | 227 | 196 | 115 | 69 | 1,597 | 44,368,367 |
| 64 | 316 | 294 | 228 | 187 | 161 | 103 | 72 | 1,361 | 37,197,865 |
| 65 | 300 | 232 | 188 | 172 | 140 | 110 | 51 | 1,193 | 31,267,462 |
| 66 | 240 | 190 | 146 | 130 | 94 | 57 | 40 | 897 | 22,067,585 |
| 67 | 234 | 156 | 138 | 78 | 61 | 42 | 29 | 738 | 17,722,797 |
| 68 | 179 | 138 | 105 | 76 | 48 | 33 | 23 | 602 | 13,250,900 |
| 69 | 150 | 124 | 79 | 44 | 49 | 27 | 17 | 490 | 11,258,562 |
| 70 | 133 | 94 | 69 | 56 | 29 | 26 | 24 | 431 | 9,316,187 |
| Over 70 | 481 | 420 | 359 | 249 | 164 | 121 | 135 | 1,929 | 36,035,678 |
| Totals | 74,209 | 33,397 | 22,452 | 14,757 | 9,857 | 5,216 | 2,035 | 161,923 | \$4,543,453,470 |

**ACTIVE SLEP MEMBERS
BY ATTAINED AGE AND YEARS OF SERVICE
DECEMBER 31, 2002**

| Attained Ages | Years of Service to Valuation Date | | | | | | | Totals | |
|------------------|------------------------------------|------------|------------|------------|------------|------------|-----------|--------------|----------------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 & Up | No. | Valuation Payroll |
| 15-19 | 1 | | | | | | | 1 | \$ 19,667 |
| 20-24 | 96 | | | | | | | 96 | 2,980,388 |
| 25-29 | 357 | 90 | 1 | | | | | 448 | 17,044,170 |
| 30-34 | 301 | 339 | 89 | | | | | 729 | 31,428,093 |
| 35-39 | 162 | 175 | 289 | 70 | 4 | | | 700 | 34,303,576 |
| 40-44 | 95 | 112 | 166 | 162 | 55 | | | 590 | 30,304,588 |
| 45-49 | 59 | 50 | 103 | 134 | 185 | 81 | 1 | 613 | 34,600,838 |
| 50 | 14 | 10 | 13 | 30 | 21 | 37 | 2 | 127 | 7,472,739 |
| 51 | 7 | 11 | 12 | 19 | 17 | 34 | 1 | 101 | 5,810,803 |
| 52 | 7 | 6 | 13 | 26 | 18 | 23 | 4 | 97 | 5,261,396 |
| 53 | 3 | 5 | 11 | 13 | 13 | 6 | 4 | 55 | 2,949,108 |
| 54 | 6 | 7 | 12 | 7 | 10 | 8 | 6 | 56 | 2,931,588 |
| 55 | 8 | 3 | 6 | 14 | 10 | 7 | 5 | 53 | 3,031,238 |
| 56 | 10 | 5 | 9 | 5 | 13 | 6 | 6 | 54 | 2,814,981 |
| 57 | 1 | 3 | 3 | 5 | 4 | 5 | 3 | 24 | 1,569,318 |
| 58 | 8 | 4 | 5 | 1 | 1 | 3 | 5 | 27 | 1,404,357 |
| 59 | 3 | 8 | 3 | 3 | 2 | 2 | 1 | 22 | 1,103,226 |
| 60 | 4 | 3 | | 5 | 3 | 4 | 4 | 23 | 1,036,350 |
| 61 | 1 | | 3 | 3 | 6 | 2 | | 15 | 748,543 |
| 62 | | 3 | 3 | 5 | 1 | 1 | 1 | 14 | 696,716 |
| 63 | 2 | 2 | 2 | | 2 | 2 | | 10 | 487,067 |
| 64 | | | 3 | 1 | | | 1 | 5 | 338,058 |
| 65 | | 1 | 2 | 1 | 2 | 3 | 1 | 10 | 403,173 |
| 66 | | | 3 | 1 | | | | 4 | 173,905 |
| 67 | | 2 | 1 | 1 | 1 | 1 | | 6 | 334,863 |
| 68 | | | 1 | | | | | 1 | 59,797 |
| 69 | | | 1 | | | 1 | | 2 | 70,167 |
| 70 | | | 1 | | 1 | | | 2 | 52,999 |
| 71 | 1 | | | 1 | 1 | 1 | | 4 | 157,061 |
| Totals | 1,146 | 839 | 755 | 507 | 370 | 227 | 45 | 3,889 | \$189,588,773 |

**ACTIVE ECO REGULAR MEMBERS
BY ATTAINED AGE AND YEARS OF SERVICE
DECEMBER 31, 2002**

| Attained Ages | Years of Service to Valuation Date | | | | | | | Totals | |
|------------------|------------------------------------|------------|------------|-----------|-----------|-----------|-----------|------------|----------------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 & Up | No. | Valuation Payroll |
| 20-24 | | 1 | | | | | | 1 | \$ 41,025 |
| 25-29 | 3 | | | | | | | 3 | 76,032 |
| 30-34 | 2 | 5 | 1 | | | | | 8 | 436,779 |
| 35-39 | 14 | 6 | 7 | 1 | 1 | | | 29 | 1,360,333 |
| 40-44 | 17 | 11 | 9 | 3 | 5 | | | 45 | 2,312,057 |
| 45-49 | 33 | 20 | 20 | 15 | 14 | 9 | | 111 | 5,168,322 |
| 50 | 5 | 5 | 5 | 3 | 4 | | 1 | 23 | 1,053,953 |
| 51 | 5 | 4 | 2 | 3 | 3 | | | 17 | 864,275 |
| 52 | 6 | 1 | 4 | 4 | | | | 15 | 580,974 |
| 53 | 5 | 4 | 5 | 4 | 1 | | 1 | 20 | 795,505 |
| 54 | 11 | 5 | 5 | | 3 | 2 | 1 | 27 | 789,080 |
| 55 | 5 | 5 | 8 | 2 | 3 | 1 | 1 | 25 | 1,026,119 |
| 56 | 2 | 3 | 2 | 4 | 6 | | 1 | 18 | 973,345 |
| 57 | 5 | 2 | 1 | 1 | 2 | | 2 | 13 | 491,908 |
| 58 | 2 | 1 | 5 | 3 | 1 | 1 | | 13 | 475,654 |
| 59 | 3 | | 3 | 4 | | | | 10 | 316,390 |
| 60 | 2 | 1 | | 2 | | 1 | | 6 | 137,138 |
| 61 | 1 | 1 | 2 | 2 | 1 | 2 | 3 | 12 | 494,323 |
| 62 | 6 | 2 | 1 | 2 | | | | 11 | 272,562 |
| 63 | 3 | 2 | 2 | 2 | 1 | | 1 | 11 | 418,037 |
| 64 | 2 | 3 | 2 | 2 | 2 | | 1 | 12 | 263,582 |
| 65 | 4 | 4 | 3 | 2 | | | | 13 | 243,963 |
| 66 | 3 | 2 | | 2 | | 1 | | 8 | 227,829 |
| 67 | 3 | | 1 | | | 1 | | 5 | 176,605 |
| 68 | 3 | 3 | 5 | 1 | 1 | | 1 | 14 | 186,682 |
| 69 | 3 | | 1 | | | | | 4 | 30,163 |
| 70 | 2 | 1 | 2 | 1 | 3 | | 1 | 10 | 145,704 |
| 71 | 9 | 8 | 5 | 2 | 4 | 1 | | 29 | 408,211 |
| Totals | 159 | 100 | 101 | 65 | 55 | 19 | 14 | 513 | \$19,766,550 |

**ACTIVE ECO SLEP MEMBERS
BY ATTAINED AGE AND YEARS OF SERVICE
DECEMBER 31, 2002**

| Attained Ages | Years of Service to Valuation Date | | | | | | | Totals | |
|------------------|------------------------------------|----------|----------|----------|----------|----------|----------|-----------|----------------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 & Up | No. | Valuation Payroll |
| 30-34 | | | | | | | | | |
| 35-39 | | 2 | | | | | | 2 | \$ 100,638 |
| 40-44 | | | 1 | 1 | | | | 2 | 90,403 |
| 45-49 | 1 | 1 | | 5 | | 3 | | 10 | 509,068 |
| 50 | | | 1 | | | 1 | | 2 | 114,114 |
| 51 | | | | | | | | | |
| 52 | | | | 2 | | 3 | | 5 | 350,059 |
| 53 | | | | | | | | | |
| 54 | 1 | 1 | 2 | 1 | | | 1 | 6 | 340,282 |
| 55 | 1 | | | | | | 1 | 2 | 122,653 |
| 56 | 3 | | | | 1 | | | 4 | 196,952 |
| 57 | | | | | | | 1 | 1 | 81,754 |
| 58 | | | | | 1 | | | 1 | 67,728 |
| 59 | | | | | | 1 | | 1 | 53,894 |
| 60 | 1 | | | | | | | 1 | 57,981 |
| 61 | | 1 | | | | | | 1 | 53,108 |
| 62 | | | | | | 1 | | 1 | 78,564 |
| 63 | | | | | | | | | |
| 64 | | | | | | | | | |
| 65 | | | | | | | | | |
| 66 | | | | | | | | | |
| 67 | | | | | | | | | |
| 68 | | | | | | | | | |
| 69 | | | | | | | | | |
| 70 | | | | | | | | | |
| 71 | | | | | 1 | | | 1 | 77,897 |
| Totals | 7 | 5 | 4 | 9 | 3 | 9 | 3 | 40 | \$2,295,095 |

**ALL ACTIVE MEMBERS BY YEARS OF SERVICE AND GENDER
DECEMBER 31, 2002**

| Service Years | Active Member Count | | | Active Member Pays | |
|------------------|---------------------|----------------|----------------|------------------------|-----------------|
| | Males | Females | Total | Total | Average |
| 0 | 6,138 | 12,656 | 18,794 | \$ 340,580,312 | \$18,122 |
| 1 | 5,985 | 12,488 | 18,473 | 386,710,244 | 20,934 |
| 2 | 4,868 | 10,128 | 14,996 | 346,817,351 | 23,127 |
| 3 | 4,256 | 8,522 | 12,778 | 307,809,973 | 24,089 |
| 4 | 3,455 | 7,025 | 10,480 | 265,751,477 | 25,358 |
| 5 | 3,065 | 5,792 | 8,857 | 232,197,806 | 26,216 |
| 6 | 2,544 | 4,869 | 7,413 | 206,744,069 | 27,889 |
| 7 | 2,384 | 4,344 | 6,728 | 188,339,351 | 27,993 |
| 8 | 2,049 | 4,019 | 6,068 | 177,731,983 | 29,290 |
| 9 | 1,908 | 3,367 | 5,275 | 159,843,541 | 30,302 |
| 10 | 1,567 | 2,806 | 4,373 | 137,886,087 | 31,531 |
| 11 | 1,748 | 2,948 | 4,696 | 150,752,908 | 32,102 |
| 12 | 1,916 | 3,209 | 5,125 | 172,815,813 | 33,720 |
| 13 | 1,949 | 2,982 | 4,931 | 168,455,605 | 34,163 |
| 14 | 1,786 | 2,401 | 4,187 | 154,573,960 | 36,918 |
| 15 & Up | 16,124 | 17,067 | 33,191 | 1,358,093,408 | 40,918 |
| Totals | 61,742 | 104,623 | 166,365 | \$4,755,103,888 | \$28,582 |

**INACTIVE REGULAR MEMBERS
BY ATTAINED AGE AND YEARS OF SERVICE
DECEMBER 31, 2002**

| Attained Ages | Years of Service to Valuation Date | | | | | | | Totals No. |
|------------------|------------------------------------|--------------|--------------|--------------|------------|------------|------------|----------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 & Up | |
| 15-19 | 303 | | | | | | | 303 |
| 20-24 | 4,620 | 2 | | | | | | 4,622 |
| 25-29 | 10,947 | 89 | 2 | | | | 2 | 11,040 |
| 30-34 | 13,063 | 420 | 73 | | | | 5 | 13,561 |
| 35-39 | 11,158 | 710 | 291 | 28 | 5 | 2 | 8 | 12,202 |
| 40-44 | 12,095 | 1,042 | 533 | 182 | 58 | 3 | 41 | 13,954 |
| 45-49 | 16,887 | 1,539 | 774 | 355 | 202 | 31 | 86 | 19,874 |
| 50 | 2,263 | 328 | 210 | 98 | 50 | 11 | 17 | 2,977 |
| 51 | 2,836 | 375 | 191 | 94 | 40 | 21 | 28 | 3,585 |
| 52 | 2,423 | 364 | 229 | 99 | 47 | 23 | 18 | 3,203 |
| 53 | 2,219 | 366 | 221 | 99 | 54 | 27 | 24 | 3,010 |
| 54 | 2,092 | 351 | 228 | 118 | 58 | 12 | 23 | 2,882 |
| 55 | 1,976 | 357 | 206 | 83 | 36 | 12 | 10 | 2,680 |
| 56 | 1,864 | 273 | 142 | 42 | 21 | 12 | 13 | 2,367 |
| 57 | 1,267 | 177 | 82 | 29 | 12 | 6 | 11 | 1,584 |
| 58 | 1,214 | 172 | 82 | 29 | 6 | 3 | 10 | 1,516 |
| 59 | 1,013 | 147 | 74 | 25 | 8 | 3 | 10 | 1,280 |
| 60 | 1,115 | 150 | 52 | 17 | 14 | 10 | 9 | 1,367 |
| 61 | 864 | 73 | 43 | 16 | 10 | 9 | 4 | 1,019 |
| 62 | 707 | 60 | 16 | 15 | 11 | 12 | 4 | 825 |
| 63 | 853 | 59 | 18 | 17 | 7 | 7 | 4 | 965 |
| 64 | 461 | 49 | 13 | 10 | 2 | 6 | 5 | 546 |
| 65 | 459 | 33 | 6 | 8 | 5 | 5 | 3 | 519 |
| 66 | 389 | 27 | 6 | 8 | 3 | | 1 | 434 |
| 67 | 468 | 17 | 4 | 2 | 2 | 1 | | 494 |
| 68 | 400 | 24 | 1 | 3 | 1 | | | 429 |
| 69 | 331 | 20 | 8 | 1 | 1 | | 1 | 362 |
| 70 | 338 | 14 | 2 | 1 | | | | 355 |
| Over 70 | 4,675 | 162 | 34 | 12 | 3 | 3 | 6 | 4,895 |
| Totals | 99,300 | 7,400 | 3,541 | 1,391 | 656 | 219 | 343 | 112,850 |

**INACTIVE SLEP MEMBERS
BY ATTAINED AGE AND YEARS OF SERVICE
DECEMBER 31, 2002**

| Attained Ages | Years of Service to Valuation Date | | | | | | | Totals No. |
|------------------|------------------------------------|-----------|-----------|-----------|-----------|----------|----------|---------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 & Up | |
| 15-19 | | | | | | | | |
| 20-24 | 13 | | | | | | | 13 |
| 25-29 | 44 | 2 | | | | | | 46 |
| 30-34 | 65 | 20 | 3 | | | | | 88 |
| 35-39 | 43 | 15 | 13 | 1 | | | | 72 |
| 40-44 | 39 | 14 | 16 | 4 | 2 | | | 75 |
| 45-49 | 40 | 14 | 14 | 16 | 8 | 3 | 1 | 96 |
| 50 | 8 | 4 | 4 | 2 | 3 | 1 | | 22 |
| 51 | 3 | 4 | 5 | 3 | | | 1 | 16 |
| 52 | 14 | 1 | 3 | 1 | 1 | | | 20 |
| 53 | 11 | 3 | 2 | 1 | | 1 | | 18 |
| 54 | 4 | 2 | 5 | 6 | | 1 | 2 | 20 |
| 55 | 6 | 4 | 5 | 2 | | | 1 | 18 |
| 56 | 3 | 1 | | | 1 | | | 5 |
| 57 | 3 | | 3 | | | | | 6 |
| 58 | 8 | 2 | 1 | 1 | 1 | | | 13 |
| 59 | 5 | 1 | | | | | | 6 |
| 60 | 2 | 2 | 1 | | | | | 5 |
| 61 | 2 | | | | 1 | | | 3 |
| 62 | 2 | 1 | 1 | | | | | 4 |
| 63 | 2 | | | | | | | 2 |
| 64 | 5 | | | | | | | 5 |
| 65 | 2 | | | | | | 1 | 3 |
| 66 | | | 1 | | | | | 1 |
| 67 | 2 | | | | | | | 2 |
| 68 | | | | | | | | |
| 69 | | | | | | | | |
| 70 | | | | | | | | |
| Over 70 | 8 | | | | | | | 8 |
| Totals | 334 | 90 | 77 | 37 | 17 | 6 | 6 | 567 |

**INACTIVE ECO MEMBERS
BY ATTAINED AGE AND YEARS OF SERVICE
DECEMBER 31, 2002**

| Attained Ages | Years of Service to Valuation Date | | | | | | | Totals No. |
|------------------|------------------------------------|-----------|-----------|-----------|----------|----------|---------|---------------|
| | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30 & Up | |
| 15-19 | | | | | | | | |
| 20-24 | | | | | | | | |
| 25-29 | 1 | | | | | | | 1 |
| 30-34 | | | | | | | | |
| 35-39 | 4 | 2 | | | | | | 6 |
| 40-44 | 6 | 3 | 2 | | | | | 11 |
| 45-49 | 9 | 9 | 7 | 1 | 1 | 1 | | 28 |
| 50 | | | | 3 | 2 | | | 5 |
| 51 | 1 | 2 | 3 | 1 | | | | 7 |
| 52 | 1 | | 1 | | 1 | | | 3 |
| 53 | 2 | | 1 | 1 | | | | 4 |
| 54 | 4 | 1 | 1 | 2 | 1 | | | 9 |
| 55 | 1 | | 3 | 2 | | | | 6 |
| 56 | 2 | | | 1 | | | | 3 |
| 57 | 1 | | | | | | | 1 |
| 58 | 2 | | | 2 | | | | 4 |
| 59 | | 1 | | | | | | 1 |
| 60 | | 1 | 1 | | 1 | | | 3 |
| 61 | | 1 | | | | | | 1 |
| 62 | 1 | | | | 1 | | | 2 |
| 63 | | 2 | | | | | | 2 |
| 64 | | | | | | | | |
| 65 | | | | | | | | |
| 66 | 2 | | | 1 | | | | 3 |
| 67 | | | | | | | | |
| 68 | | | | | | | | |
| 69 | | 1 | | | | | | 1 |
| 70 | 1 | 1 | | | | | | 2 |
| Over 70 | 2 | | 1 | | 1 | | | 4 |
| Totals | 40 | 24 | 20 | 14 | 8 | 1 | | 107 |

RETIREES AND BENEFICIARIES
DECEMBER 31, 2002

Annual Amounts by Form of Payment

| Type of Retirement | Regular | | Optional Plan | | Total | |
|-------------------------|---------------|-----------------------|---------------|-----------------------|---------------|-----------------------|
| | No. | Amount | No. | Amount | No. | Amount |
| Normal or Early | | | | | | |
| Joint and 50% Survivor | 32,456 | \$ 280,391,736 | 14,296 | \$ 127,372,068 | 46,752 | \$ 407,763,804 |
| Straight Life | 11,404 | 91,412,904 | 3,493 | 32,245,428 | 14,897 | 123,658,332 |
| Total | 43,860 | 371,804,640 | 17,789 | 159,617,496 | 61,649 | 531,422,136 |
| Disability | 622 | 3,237,780 | - | - | 622 | 3,237,780 |
| Surviving Beneficiaries | 10,549 | 36,675,024 | 629 | 3,373,116 | 11,178 | 40,048,140 |
| Voluntary Contributions | 559 | 298,944 | - | - | 559 | 298,944 |
| Grand Total | 55,590 | \$ 412,016,388 | 18,418 | \$ 162,990,612 | 74,008 | \$ 575,007,000 |

Voluntary Contributions includes annuitization of certain surviving spouse and SLEP refund amounts. Thirteenth Check amounts are not included in the above figures.

**RETIREES AND BENEFICIARIES
BY ATTAINED AGE
DECEMBER 31, 2002**

| Attained Ages | Number | | | Annual Benefits |
|------------------|---------------|---------------|---------------|----------------------|
| | Males | Females | Total | |
| Under 20 | 6 | 9 | 15 | \$ 39,540 |
| 20 - 24 | 1 | 6 | 7 | 11,544 |
| 25 - 29 | 3 | 3 | 6 | 16,200 |
| 30 - 34 | 6 | 8 | 14 | 37,836 |
| 35 - 39 | 8 | 13 | 21 | 61,956 |
| 40 - 44 | 24 | 43 | 67 | 277,392 |
| 45 - 49 | 52 | 95 | 147 | 659,832 |
| 50 - 54 | 389 | 236 | 625 | 13,946,748 |
| 55 - 59 | 1,641 | 3,035 | 4,676 | 63,424,200 |
| 60 - 64 | 2,891 | 6,539 | 9,430 | 100,164,216 |
| 65 - 69 | 4,308 | 8,745 | 13,053 | 117,789,480 |
| 70 - 74 | 4,562 | 9,140 | 13,702 | 107,934,960 |
| 75 - 79 | 4,382 | 8,738 | 13,120 | 85,683,408 |
| 80 - 84 | 3,225 | 7,132 | 10,357 | 53,721,180 |
| 85 - 89 | 1,675 | 4,318 | 5,993 | 23,460,828 |
| 90 - 94 | 556 | 1,705 | 2,261 | 6,571,848 |
| 95 & Up | 82 | 432 | 514 | 1,205,832 |
| Totals | 23,811 | 50,197 | 74,008 | \$575,007,000 |

**RETIREES AND BENEFICIARIES BY YEAR OF RETIREMENT
DECEMBER 31, 2002**

| Year of Retirement | Number | | | Annual Benefits |
|--------------------|---------------|---------------|---------------|----------------------|
| | Males | Females | Total | |
| 2002 | 1,670 | 2,989 | 4,659 | \$ 51,570,024 |
| 2001 | 1,675 | 3,013 | 4,688 | 44,491,608 |
| 2000 | 1,414 | 2,874 | 4,288 | 40,583,124 |
| 1999 | 1,697 | 2,971 | 4,668 | 48,036,084 |
| 1998 | 1,671 | 2,913 | 4,584 | 50,973,924 |
| 1997 | 1,493 | 2,923 | 4,416 | 44,372,844 |
| 1996 | 1,296 | 2,725 | 4,021 | 38,560,716 |
| 1995 | 1,182 | 2,512 | 3,694 | 29,147,244 |
| 1994 | 1,077 | 2,319 | 3,396 | 26,297,292 |
| 1993 | 1,034 | 2,188 | 3,222 | 23,860,512 |
| 1992 | 983 | 1,977 | 2,960 | 22,063,236 |
| 1991 | 854 | 1,858 | 2,712 | 18,794,820 |
| 1990 - 1994 | 870 | 1,802 | 2,672 | 18,665,160 |
| 1985 - 1989 | 3,618 | 7,957 | 11,575 | 70,609,728 |
| 1980 - 1984 | 2,068 | 4,803 | 6,871 | 32,321,208 |
| 1975 - 1979 | 953 | 2,770 | 3,723 | 11,363,088 |
| 1970 - 1974 | 221 | 1,197 | 1,418 | 2,851,524 |
| 1965 - 1969 | 30 | 309 | 339 | 372,804 |
| Before 1965 | 5 | 97 | 102 | 80,868 |
| Total | 23,811 | 50,197 | 74,008 | \$575,015,808 |

**DATA REPORTED FOR ACTUARIAL VALUATIONS
COMPARATIVE SUMMARY**

| Date December 31 | Active Members | | | | | Number | | Ratio: Act/Ret. |
|---------------------|----------------|---------|-------|---------------|-----------------|----------|---------|--------------------|
| | Number | Average | | | | Inactive | Retired | |
| | | Age | Serv. | Annual Pay | Pay Increase | | | |
| 1983 | 107,178 | 43.0 | 6.8 | \$13,825 | - | 54,471 | 36,600 | 2.90 |
| 1984 | 105,658 | 43.1 | 7.2 | 14,689 | 6.2 % | 38,762 | 39,063 | 2.70 |
| 1985 | 107,708 | 43.1 | 7.2 | 15,417 | 5.0 % | 39,315 | 40,863 | 2.60 |
| 1986 | 110,285 | 43.1 | 7.3 | 16,033 | 4.0 % | 39,921 | 42,800 | 2.60 |
| 1987 | 112,611 | 43.0 | 7.1 | 16,602 | 3.5 % | 46,199 | 44,689 | 2.50 |
| 1988 | 115,050 | 43.1 | 7.2 | 17,370 | 4.6 % | 47,305 | 45,882 | 2.50 |
| 1989 | 118,670 | 43.1 | 7.2 | 18,046 | 3.9 % | 53,470 | 49,005 | 2.40 |
| 1990 | 121,234 | 43.3 | 7.3 | 19,000 | 5.3 % | 57,016 | 50,714 | 2.40 |
| 1991 | 125,559 | 43.4 | 7.4 | 19,846 | 4.5 % | 59,775 | 52,397 | 2.40 |
| 1992 | 126,557 | 43.7 | 7.7 | 20,816 | 4.9 % | 61,964 | 54,209 | 2.30 |
| 1993 | 122,361 | 44.2 | 8.2 | 22,142 | 6.4 % | 66,735 | 56,313 | 2.20 |
| 1994 | 133,803 | 43.8 | 7.8 | 22,021 | (0.5)% | 73,972 | 57,681 | 2.30 |
| 1995 | 136,617 | 43.8 | 8.2 | 22,661 | 2.9 % | 65,914 | 59,701 | 2.29 |
| 1996 | 139,525 | 44.0 | 8.3 | 22,104 | 3.5 %* | 48,274 | 61,492 | 2.27 |
| 1997 | 143,999 | 44.1 | 8.2 | 23,991 | 8.5 % | 81,919 | 64,886 | 2.22 |
| 1998 | 148,610 | 44.3 | 8.2 | 24,871 | 3.7 % | 88,173 | 67,086 | 2.22 |
| 1999 | 153,910 | 44.4 | 8.6 | 25,678 | 3.2 % | 94,576 | 69,130 | 2.23 |
| 2000 | 157,836 | 44.6 | 8.2 | 26,514 | 3.4 % | 102,082 | 70,395+ | 2.24 |
| 2001 | 163,886 | 44.9 | 8.3 | 27,477 | 3.9 % | 108,338 | 71,618 | 2.29 |
| 2002 | 166,365 | 45.3 | 8.5 | 28,582 | 4.0 % | 113,524 | 74,008 | 2.25 |

* Changed method of recording earnings for 1996 valuation.

+ Restated subsequent to release of 2000 valuation.

SECTION C

Financial Data

DEVELOPMENT OF FUNDING VALUE OF RETIREMENT SYSTEM ASSETS

| Year Ended December 31 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|--|-------------------|------------------|------------------|------------------|------------------|------------------|
| A. Funding Value Beginning of Year | \$ 15,169,369,270 | \$16,305,022,253 | | | | |
| B. Market Value End of Year | 14,964,964,170 | 13,496,215,283 | | | | |
| C. Market Value Beginning of Year | 16,041,266,432 | 14,964,964,170 | | | | |
| D. Non-Investment/Administrative Net Cash Flow | (68,846,428) | (111,758,768) | | | | |
| E. Investment Return | | | | | | |
| E1. Market Total:B-C-D | (1,007,455,834) | (1,356,990,119) | | | | |
| E2. Assumed Rate of Return | 7.50% | 7.50% | | | | |
| E3. Assumed Amount of Return | 1,135,120,954 | 1,218,685,715 | | | | |
| E4. Return Subject to Phase In: E1-E3 | (2,142,576,788) | (2,575,675,834) | | | | |
| F. Phased-In Recognition of Investment Return | | | | | | |
| F1. Current year: 0.20xE4 | (428,515,358) | (515,135,167) | Unknown | Unknown | Unknown | Unknown |
| F2. First Prior Year | (153,262,372) | (428,515,358) | \$ (515,135,167) | Unknown | Unknown | Unknown |
| F3. Second Prior Year | 348,631,257 | (153,262,372) | (428,515,358) | \$ (515,135,167) | Unknown | Unknown |
| F4. Third Prior Year | 136,527,944 | 348,631,257 | (153,262,372) | (428,515,358) | \$ (515,135,167) | Unknown |
| F5. Fourth Prior Year | 165,996,986 | 136,527,944 | 348,631,257 | (153,262,372) | (428,515,358) | \$ (515,135,167) |
| F6. Total Recognized Investment Gain | 69,378,457 | (611,753,696) | (748,281,640) | (1,096,912,897) | (943,650,525) | (515,135,167) |
| G. Funding Value End of Year: A+D+E3+F6 | \$16,305,022,253 | \$16,800,195,504 | | | | |
| H. Difference Between Market and Funding Value | (1,340,058,083) | (3,303,980,221) | (2,555,698,589) | (1,458,785,692) | (515,135,167) | - |
| I. Recognized Rate of Return | 8.0 % | 3.7 % | | | | |
| J. Market Rate of Return | (6.3)% | (9.1)% | | | | |
| K. Ratio of Funding Value to Market Value | 109.0 % | 124.5 % | | | | |

-----Scheduled-----

The Funding Value of Assets recognizes assumed investment return (line E3) fully each year. Differences between actual and assumed investment return (line E4) are phased in over a closed 5-year period.

DEVELOPMENT OF MARKET VALUE ADJUSTMENT

In a single employer plan, the Market Value Adjustment would normally be the difference between the funding value of assets and the market value of assets. In IMRF, because of the need to allocate the Market Value Adjustment in an equitable manner among participating employers, certain extra steps are taken as shown below.

| | Year Ended December 31 | |
|---|-------------------------|-------------------------|
| | 2002 | 2001 |
| 1. Funding Value of End of Year | \$16,800,195,504 | \$16,305,022,254 |
| 2. Amounts not used in rate calculations | | |
| a. Suspended Annuity Reserve | 6,613,337 | 12,767,241 |
| b. Disability Benefit Reserve | 7,352,118 | 9,548,632 |
| c. Death Benefit Reserve | 9,772,910 | 8,910,596 |
| d. Supplemental Benefit Reserve | 2,001,340 | 2,132,793 |
| e. Cases removed from rate calculations* | 27,588,911 | 27,405,771 |
| f. Estimated pending reserve transfers | - | 33,086,835 |
| g. Total | 53,328,616 | 93,851,868 |
| 3. Remaining amount to allocate: (1)-(2g) | 16,746,866,888 | 16,211,170,386 |
| 4. Total reported negative reserves | (1,272,458) | (1,062,102) |
| 5. Amount available to positive reserves: (3)-(4) | 16,748,139,346 | 16,212,232,488 |
| 6. Total Market Value of reported positive reserves | 13,438,556,723 | 14,836,578,050 |
| 7. Market Value Adjustment: (5)-(6) | \$ 3,309,582,623 | \$ 1,375,654,438 |

* Employers that are not included on the asset tape submitted to the actuary. These employers have no active members and no employer assets, but may have retired lives and/or inactive members.

The Market Value Adjustment is allocated among all employers that have a positive reserve balance (member plus employer plus retired life reserves), in proportion to each employer's reserve balance.

REPORTED MARKET VALUES

| | Market Value | | Percentage of Total | |
|---|-------------------------|-------------------------|---------------------|---------------|
| | 2002 | 2001 | 2002 | 2001 |
| Investment portfolio | | | | |
| Fixed income | \$ 5,029,331,720 | \$ 4,872,506,079 | 37.3% | 32.7% |
| Short term | 277,205,044 | 210,397,332 | 2.1% | 1.4% |
| Foreign exchange contracts | (833,061) | 4,555,378 | 0.0% | 0.0% |
| Stocks | 5,098,950,985 | 6,072,628,831 | 37.9% | 40.7% |
| Bond funds | - | - | 0.0% | 0.0% |
| Stock funds and Index Funds | 1,934,490,237 | 2,382,101,522 | 14.4% | 16.0% |
| Options | - | - | 0.0% | 0.0% |
| Real estate | 585,869,573 | 580,078,232 | 4.4% | 3.9% |
| Alternative investments | 469,747,938 | 488,997,371 | 3.5% | 3.3% |
| Master trust reserve fund | 480,703,210 | 642,962,220 | 3.6% | 4.3% |
| Cash | - | - | 0.0% | 0.0% |
| Due from brokers | - | - | 0.0% | 0.0% |
| Due (to) brokers | (486,179,809) | (395,924,932) | (3.6)% | (2.7)% |
| Accrued investment income | 58,571,023 | 58,991,355 | 0.4% | 0.4% |
| Total Invested Assets | 13,447,856,860 | 14,917,293,388 | 100.0% | 100.0% |
| Total Receivables | 68,562,290 | 66,797,076 | | |
| Total Cash | 2,733,741 | 562,259 | | |
| Total Fixed Assets | 1,000,417 | 531,641 | | |
| Total Market Value | 13,520,153,308 | 14,985,184,364 | | |
| Liabilities | | | | |
| Benefits & vouchers payable | 23,938,025 | 20,220,194 | | |
| Total Liabilities | 23,938,025 | 20,220,194 | | |
| Nets Assets Available for Benefits | \$13,496,215,283 | \$14,964,964,170 | | |

Figures on this page may not always agree with final figures reported by IMRF, but are shown for completeness.

SECTION D

Actuarial Methods and Assumptions

**SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS
USED FOR IMRF ACTUARIAL VALUATIONS
ASSUMPTIONS ADOPTED BY RETIREMENT BOARD
AFTER CONSULTING WITH ACTUARY**

Economic Assumptions

The investment return rate used in making the valuations was 7.5% per year, compounded annually (net after expenses). The assumed real rate of return is the portion of total investment return, which is more than the assumed wage inflation rate. Considering other financial assumptions, the 7.5% investment return rate translates to an assumed real rate of return of 3.50%.

Pay increase assumptions for individual active members are shown for sample ages on page D-7. Part of the assumption for each age is for merit and/or seniority increase, and the other 4.00% recognizes wage inflation. There is no specific price inflation assumption made for this valuation.

The *active member payroll* is assumed to increase 4.00% annually, which is the portion of the individual pay increase assumptions attributable to wage inflation.

The *number of active members* is assumed to continue at the present number.

Non-Economic Assumptions

Non-economic (decrement) assumptions include rates of mortality before and after retirement, rates of disability, rates of retirement, rates of other separation from employment and probabilities of an active member being married. With the exception of mortality tables, the non-economic assumptions are based upon experience during the 1999-2001 period (please see report dated September 18, 2002), and were first used in the December 31, 2002 valuation. Decrement assumptions are shown for sample ages beginning on page D-3.

Actuarial Valuation Method

An aggregate entry age actuarial cost method of valuation was used in determining most liabilities and normal cost. This means that a normal cost was determined for each benefit group, and was constant for each employer in that benefit group.

Differences in the past between assumed experience and actual experience (“actuarial gains and losses”) become part of actuarial accrued liabilities.

**SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS
USED FOR IMRF ACTUARIAL VALUATIONS
ASSUMPTIONS ADOPTED BY RETIREMENT BOARD AFTER CONSULTING
WITH ACTUARY
(CONTINUED)**

Unfunded actuarial accrued liabilities are amortized to produce payments (principal & interest) which are level percent of payroll contributions.

Liabilities for lump sum death benefits and temporary disability benefits were determined using a term cost approach. Under this approach, the funding objective is to receive contributions each year that approximately equal the benefits being paid.

Employer contributions were assumed to be *paid in equal installments* throughout the year.

Present assets (cash & investments) at funding value are shown on page C-1.

The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (M.A.A.A.)

**ACTUARIAL ASSUMPTIONS
DECEMBER 31, 2002
PROBABILITIES OF AGE & SERVICE RETIREMENT**

| Age at Retirement | Regular Members | | | | SLEP Members |
|-------------------|-----------------|---------|--------|---------|--------------|
| | Reduced Early | | Normal | | |
| | Males | Females | Males | Females | |
| 50 | | | | | 25% |
| 51 | | | | | 20% |
| 52 | | | | | 15% |
| 53 | | | | | 10% |
| 54 | | | | | 25% |
| 55 | 6% | 7% | 35% | 35% | 25% |
| 56 | 6% | 7% | 35% | 35% | 20% |
| 57 | 6% | 7% | 35% | 35% | 25% |
| 58 | 6% | 7% | 35% | 35% | 35% |
| 59 | 6% | 7% | 35% | 35% | 15% |
| 60 | | | 10% | 10% | 10% |
| 61 | | | 15% | 15% | 10% |
| 62 | | | 25% | 20% | 25% |
| 63 | | | 20% | 20% | 20% |
| 64 | | | 20% | 20% | 20% |
| 65 | | | 40% | 30% | 25% |
| 66 | | | 30% | 20% | 25% |
| 67 | | | 25% | 18% | 25% |
| 68 | | | 23% | 18% | 25% |
| 69 | | | 22% | 18% | 25% |
| 70-79 | | | 20% | 18% | 100% |
| 80 & Over | | | 100% | 100% | 100% |

For ECO members, retirement probabilities were ten percentage points higher than otherwise indicated on this schedule.

ACTUARIAL ASSUMPTIONS
DECEMBER 31, 2002
PROBABILITIES OF SEPARATION FROM ACTIVE MEMBER STATUS

| Service | % Separating Next Year | | |
|---------|----------------------------|---------|----------------------------|
| | Regular & ECO | | SLEP |
| | Males | Females | |
| 0 | 23.0% | 26.0% | 14.0% |
| 1 | 16.0% | 18.0% | 10.0% |
| 2 | 12.5% | 14.0% | 7.5% |
| 3 | 10.5% | 11.0% | 7.0% |
| 4 | 8.3% | 9.5% | 6.0% |
| 5 | 7.0% | 8.0% | N.A. |
| 6 | 6.0% | 7.0% | N.A. |
| 7 | 5.5% | 6.5% | N.A. |
| Age | 8 or More Years of Service | | 5 or More Years of Service |
| 30 | 5.5% | 6.5% | 3.0% |
| 35 | 4.4% | 5.8% | 2.4% |
| 40 | 3.4% | 4.8% | 1.7% |
| 45 | 2.8% | 4.3% | 1.5% |
| 50 | 2.5% | 3.7% | 1.5% |

ACTUARIAL ASSUMPTIONS
DECEMBER 31, 2002
ACTIVE MEMBER PROBABILITIES OF DEATH AND DISABILITY

| Sample Ages | % Dying | | | | % Disabled | | | |
|----------------|---------------|--------|-------|--------|---------------|--------|-------|--------|
| | Regular & ECO | | SLEP | | Regular & ECO | | SLEP | |
| | Male | Female | Male | Female | Male | Female | Male | Female |
| 20 | 0.02% | 0.01% | 0.03% | 0.02% | 0.02% | 0.01% | 0.03% | 0.03% |
| 25 | 0.02% | 0.02% | 0.03% | 0.02% | 0.02% | 0.01% | 0.05% | 0.05% |
| 30 | 0.03% | 0.02% | 0.05% | 0.03% | 0.02% | 0.02% | 0.08% | 0.08% |
| 35 | 0.04% | 0.03% | 0.06% | 0.03% | 0.06% | 0.03% | 0.11% | 0.11% |
| 40 | 0.06% | 0.04% | 0.09% | 0.04% | 0.09% | 0.05% | 0.17% | 0.17% |
| 45 | 0.11% | 0.06% | 0.16% | 0.07% | 0.14% | 0.07% | 0.24% | 0.24% |
| 50 | 0.20% | 0.09% | 0.29% | 0.11% | 0.21% | 0.12% | 0.36% | 0.36% |
| 55 | 0.31% | 0.14% | 0.46% | 0.17% | 0.33% | 0.18% | 0.50% | 0.50% |
| 60 | 0.46% | 0.22% | 0.69% | 0.27% | 0.42% | 0.32% | 0.46% | 0.46% |
| 65 | 0.78% | 0.37% | 1.17% | 0.44% | 0.45% | 0.38% | 0.31% | 0.31% |
| 70 | 1.38% | 0.58% | 2.06% | 0.70% | 0.38% | 0.32% | 0.18% | 0.18% |
| 75 | 2.23% | 1.01% | 3.34% | 1.21% | 0.27% | 0.23% | 0.05% | 0.05% |
| 80 | 3.70% | 1.82% | 5.56% | 2.18% | 0.23% | 0.19% | 0.00% | 0.00% |

ACTUARIAL ASSUMPTIONS
DECEMBER 31, 2002
RETIREE, BENEFICIARY, AND DISABLED LIFE MORTALITY

| Sample Ages | % Dying Next Year | | | |
|-------------|--------------------|---------|----------------|----------|
| | Non-Disabled Lives | | Disabled Lives | |
| | Males | Females | Males | Females |
| 40 | 0.1176% | 0.0705% | 0.3714% | 0.1738% |
| 45 | 0.2074% | 0.1066% | 0.5824% | 0.2746% |
| 50 | 0.3714% | 0.1738% | 0.8700% | 0.4244% |
| 55 | 0.5824% | 0.2746% | 1.4812% | 0.6969% |
| 60 | 0.8700% | 0.4244% | 2.6153% | 1.1112% |
| 65 | 1.4812% | 0.6969% | 4.2367% | 1.9121% |
| 70 | 2.6153% | 1.1112% | 7.0366% | 3.4575% |
| 75 | 4.2367% | 1.9121% | 10.9094% | 6.2242% |
| 80 | 7.0366% | 3.4575% | 15.7992% | 10.7925% |

| Sample Ages | Life Expectancy Years | | | |
|-------------|----------------------------|---------|----------------|---------|
| | Non-Disabled Retired Lives | | Disabled Lives | |
| | Males | Females | Males | Females |
| 40 | 39.0 | 45.5 | 29.7 | 35.9 |
| 45 | 34.3 | 40.7 | 25.3 | 31.3 |
| 50 | 29.7 | 35.9 | 21.1 | 26.8 |
| 55 | 25.3 | 31.3 | 17.1 | 22.4 |
| 60 | 21.1 | 26.8 | 13.6 | 18.3 |
| 65 | 17.1 | 22.4 | 10.5 | 14.4 |
| 70 | 13.6 | 18.3 | 7.9 | 10.9 |
| 75 | 10.5 | 14.4 | 6.0 | 8.0 |
| 80 | 7.9 | 10.9 | 4.5 | 5.8 |

For non-disabled lives, the mortality rates are the 1983 Group Annuity Mortality Table for Males and the 1983 Individual Annuity Mortality for Females both multiplied by 95%. For disabled lives, the mortality rates are the 1983 Group Annuity Mortality Table for Males and the 1983 Individual Annuity Mortality for Females both multiplied by 95% and set forward ten years.

**ACTUARIAL ASSUMPTIONS
DECEMBER 31, 2002
PAY INCREASES FOR ACTIVE MEMBERS**

| % Increase in Pay Next Year | | | | | |
|-----------------------------|----------------------|----------|-------|------------------------------|------------|
| 6 or More Years Service | | | | Less Than 6 Years of Service | |
| Age | Merit & Longevity | Economic | Total | Service | % Increase |
| 25 | 2.5% | 4.0% | 6.5% | 0 | 7.0% |
| 30 | 1.9% | 4.0% | 5.9% | 1 | 5.0% |
| 35 | 1.3% | 4.0% | 5.3% | 2 | 3.5% |
| 40 | 1.0% | 4.0% | 5.0% | 3 | 3.0% |
| 45 | 0.9% | 4.0% | 4.9% | 4 | 2.0% |
| 50 | 0.7% | 4.0% | 4.7% | 5 | 1.5% |
| 55 | 0.6% | 4.0% | 4.6% | | |
| 60 | 0.4% | 4.0% | 4.4% | | |

For a person with 6 or more years of service, the assumed pay increase during the coming year is found in the 6 or more years of service total column. For a person with less than 6 years of service, the % increase from the less than 6 years column that corresponds to the person's service is added to the increase from the 6 or more years of service total column that corresponds to the person's age to get the total assumed increase. For example, a 40-year-old with 8 years of service is assumed to get a 5.0% pay increase during the coming year. But a 40-year-old with 4 years of service is assumed to get a 7.0% increase (5.0% + 2.0%).

Miscellaneous and Technical Assumptions

| | |
|--------------------------|---|
| Expenses | Assumed investment return is net of administrative and investment expenses. |
| Marriage Assumption | 80% of male and 70% of female participants are assumed to be married for purposes of death-in-service and death after retirement benefits. Male spouse are assumed to be three years older than female spouses. |
| Pay Increase Timing | Beginning of (Calendar) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date. |
| Decrement Timing | Decrements of all types are assumed to occur mid-year. |
| Eligibility Testing | Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur. |
| Benefit Service | Exact fractional service on the decrement date is used to determine the amount of benefit payable. |
| Decrement Relativity | Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects. |
| Surviving Spouse Refunds | For those individuals who are not assumed to be married at retirement, the surviving spouse contributions are assumed to be refunded. |
| SLEP Refunds | SLEP participants who are assumed to retire with insufficient service to qualify for SLEP benefits are assumed to receive a refund of their SLEP contributions. |
| ECO Conversions | It is assumed that active participants in the ECO program will convert all eligible service up to the point the maximum ECO benefit would be achieved. |
| Other | Disability decrements operate during retirement eligibility. |

**FINANCING UNFUNDED ACCRUED LIABILITIES
AND FULL FUNDING CREDITS
DECEMBER 31, 2002 VALUATIONS**

The following procedures were applied to financing liabilities in the valuation.

Financing Periods for Unfunded Accrued Liabilities.

1. Instrumentalities: Remaining period from original 10 years; 5 years if period is already used up.
2. Early Retirement Incentive Plan liabilities: a period up to 10 years selected by the Employer upon adoption of ERI.
3. Other existing Regular, SLEP, and ECO rate Groups: 28 years, reducing one year annually until the remaining period is 10 years, after which time the remaining period will be frozen.
4. Employers joining IMRF in 2003: 32 Years, reducing by one year each year in the future until 30 years is reached.

Financing Period for full funding credits (Employers with Taxing Authority).

| Number of Employees | Funded % | Financing Years |
|---------------------|----------------|-----------------------------------|
| Under 10 | 100% to 114.9% | UAAL period but not less than 10 |
| Under 10 | 115% and up | 10 Years |
| 10 to 49 | 100% to 104.9% | UAAL period, but not less than 10 |
| 10 to 49 | 105% and Up | 10 years |
| 50 or more | 100% and over | 10 years |

Financing Period for full funding credits (Employers without Taxing Authority).

For these employers, full funding credits are amortized over the remaining portion of the original 10-year period, or 5 years if the period has already been used up.

The above describes the initial rules that were applied in the mass production valuation. IMRF staff reviews each case individually to see if changes are needed to comply with Board policy.

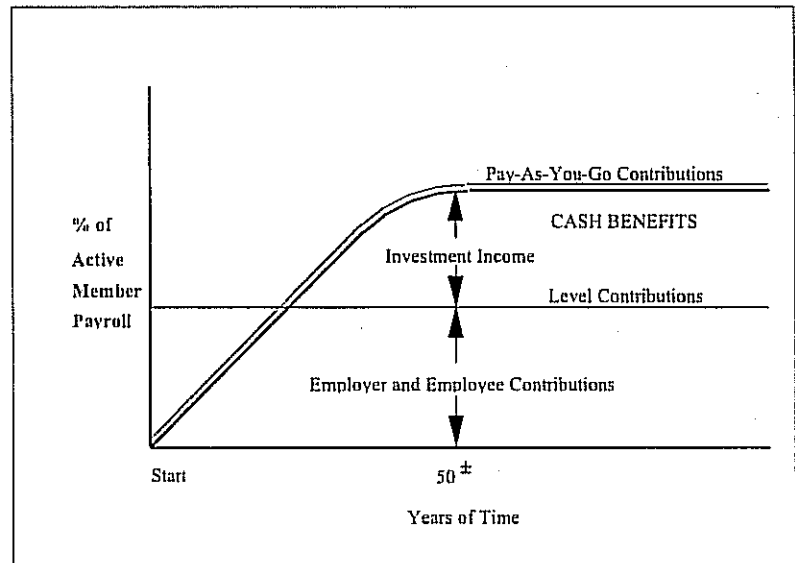
SELECTION OF ASSUMPTIONS USED IN ACTUARIAL VALUATIONS

Economic Assumptions

Investment return
Pay increases to individual employees:
the portion for economic changes
Active member group size and
total payroll growth

Demographic Assumptions

Actual ages at service retirement
Pay increases to individual members:
the portion for merit & seniority
Disability while actively employed
Separations before retirement
Mortality after retirement
Mortality before retirement



RELATIONSHIP BETWEEN THE BOARD AND THE ACTUARY

The actuary should have the primary responsibility for choosing the *demographic* assumptions used in the actuarial valuation, making use of specialized training and experience.

The actuary and other professionals can provide guidance concerning the choice of suitable economic assumptions, but the basis of the economic assumptions is expected market returns for various asset classes and the assumed rate of inflation (a quantity which defies accurate prediction). Given an assumed rate of future inflation, it is very important that this rate be applied in a consistent manner in deriving the assumed rate of investment return, the economic portion of the assumption on pay increases to individual employees, and the assumed rate of growth of active member payroll. Consistent application of assumptions is an area in which the actuary has specialized training.

A sound procedure is that the actuary suggests reasonable alternatives for economic assumptions, followed by discussion involving the actuary, the Board of Trustees, and other professionals, and the Board then makes a final choice from the various reasonable alternatives.

SECTION E

Financial Principles

FINANCIAL PRINCIPLES AND OPERATIONAL TECHNIQUES OF IMRF

Promises Made, and To Be Paid For. As each year is completed, IMRF in effect hands an "IOU" to each member then acquiring a year of service credit. The "IOU" says: "The Illinois Municipal Retirement Fund owes you one year's worth of retirement benefits, payments in cash commencing when you retire."

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 Illinois at the time the IOU becomes a cash demand, years and often decades later?

The law governing IMRF financing intends that this year's taxpayers contribute the money to cover the IOUs being handed out this year. With this financial objective, *the employer contribution rate is expected to remain approximately level from generation to generation of taxpayers.*

There are systems which have a design for deferring contributions to future taxpayers. Lured by a lower contribution rate now, they put aside the consequence that the contribution rate must then relentlessly grow to a level much higher than would be required if a level contribution pattern were followed.

An inevitable by-product of the level-cost design is the accumulation of reserve assets, for decades, and the income produced when the assets are invested. *Investment income* ultimately becomes *the 3rd and largest contributor* for benefits to members, and is interlocked with the contribution amounts required from members and employers.

Translated to actuarial terminology, this level-cost objective means that the contribution rates must total at least the following:

Normal Cost (the cost of members' service being rendered this year)

... plus ...

Interest at the assumed real rate of return on Unfunded Actuarial Accrued Liabilities (unfunded actuarial accrued liabilities are the difference between: accrued liabilities for service already rendered; and the accrued assets of IMRF).

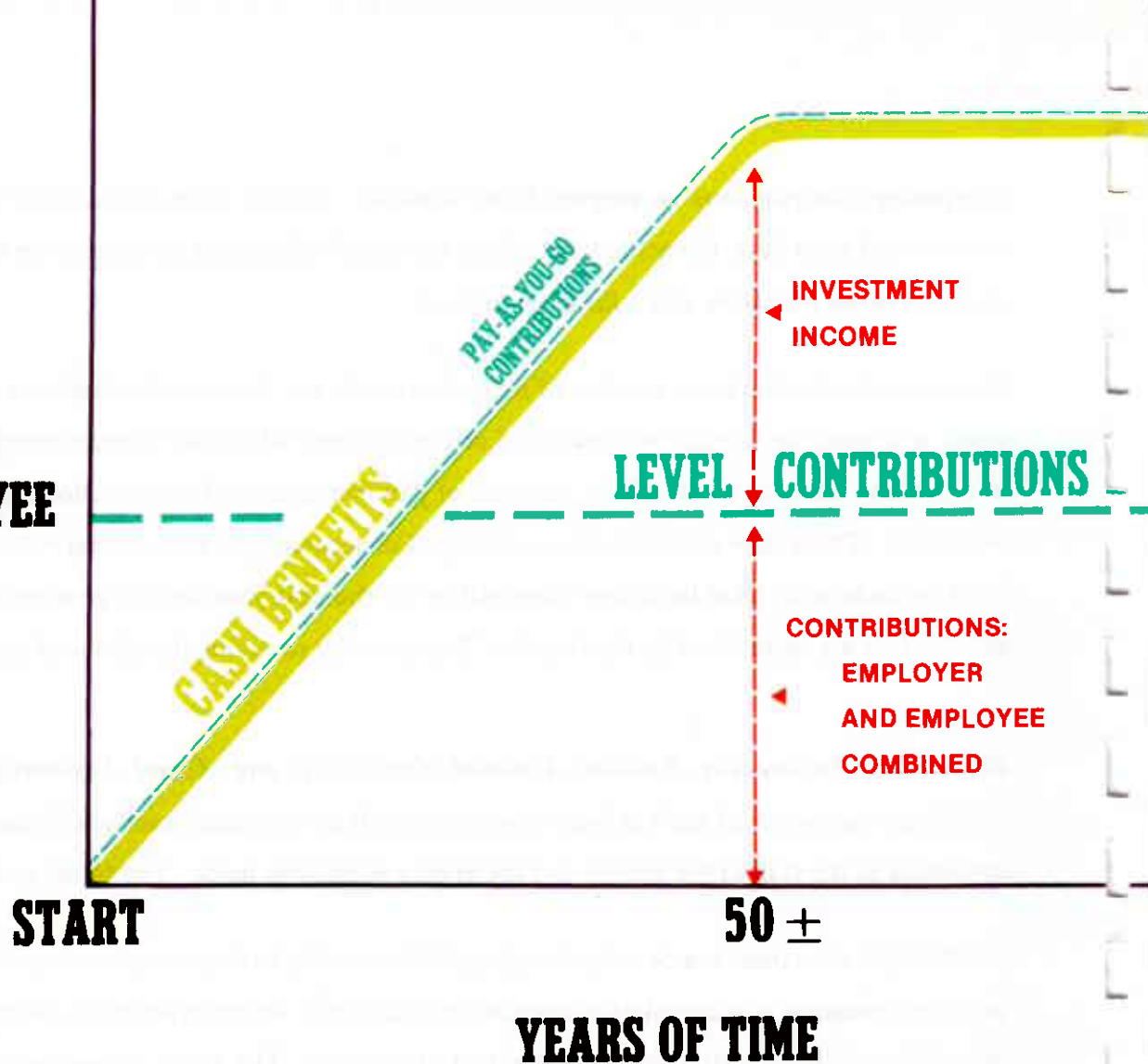
Computing Contributions to Support Fund Benefits. From a given schedule of benefits and from member and asset data, the actuary calculates the contribution rates to support the benefits by means of *an actuarial valuation and a funding method.*

An actuarial valuation has a number of ingredients such as: the rate of investment return which plan assets will earn; the rates of withdrawal of active members who leave covered employment; the rates of mortality; the rates of disability; the rates of pay increases; and the assumed age or ages at actual retirement. These rates cannot be known today. Consequently, in an actuarial valuation, assumptions must be made as to what the above rates will be for the next year and for decades in the future. The assumptions are established by the Board of Trustees after receiving the advice of the actuary.

Reconciling Differences Between Assumed Experience and Actual Experience. Once actual experience has occurred and has been observed, it will not coincide exactly with assumed experience, regardless of the skill of the actuary and the many calculations made. The future cannot be predicted.

IMRF copes with these continually changing differences by having annual 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 adjustments in financial position.*

**% OF
ACTIVE
EMPLOYEE
PAYS**



CASH BENEFITS LINE. This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).

LEVEL CONTRIBUTION LINE. Determining the level contribution line requires detailed assumptions concerning a variety of experiences in future decades, including:

Economic Risk Areas

- Rates of investment return**
- Rates of pay increase**
- Changes in active member group size**

Non-Economic Risk Areas

- Ages at actual retirement**
- Rates of mortality**
- Rates of withdrawal of active members (turnover)**
- Rates of disability**

THE ACTUARIAL VALUATION PROCESS

The financing diagram on the opposite page shows the relationship between *the two fundamentally different philosophies of paying* for retirement benefits: the method where contributions match cash benefit payments (or barely exceed cash benefit payments, as in the Federal Social Security program) which is thus an *increasing contribution method*; and, the *level contribution method* which attempts to equalize contributions between the generations.

The actuarial valuation is the mathematical process by which the level contribution rate is determined. The activity constituting the valuation may be summarized as follows:

A. *Census Data*, including:

Retired lives now receiving benefits

Former members with vested benefits not yet payable

Active members

B. + *Asset data* (cash & investments)

C. + *Benefit provisions* that establish eligibility and amounts of payments to members

D. + *Assumptions concerning future experience* in various risk areas

E. + *The funding method* for employer contributions (the long-term, planned pattern for employer contributions)

F. + *Mathematically combining the assumptions, the funding method, and the data*

G. = Determination of:

Plan Financial position and/or

New Employer Contribution Rates

GLOSSARY

ACTUARIAL ACCRUED LIABILITY. The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost (employer and employee). Sometimes referred to as “accrued liability” or “past service liability.”

ACCRUED SERVICE. The service credited under the plan which was rendered before the date of the actuarial valuation.

ACCUMULATED BENEFIT OBLIGATION. The actuarial present value of vested and non-vested benefits based on service to date and past and current salary levels.

ACTUARIAL ASSUMPTIONS. Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

ACTUARIAL COST METHOD. A mathematical budgeting procedure for allocating the dollar amount of the “actuarial present value of future plan benefits” between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the “actuarial funding method.”

ACTUARIAL EQUIVALENT. A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.

ACTUARIAL PRESENT VALUE. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

ACTUARIAL PRESENT VALUE OF CREDITED PROJECTED BENEFITS or Pension Benefit Obligation. The present value of future benefits based on service to date and the effect of projected salary increases.

ACTUARY. A person who is trained in the applications of probability and compound interest to problems in business and finance that involve payment of money in the future, contingent upon the occurrence of future events. Most actuaries in the United States are Members of the American Academy of Actuaries. The Society of Actuaries is an international research, education and membership organization for actuaries in the life and health insurance, employee benefits, and pension fields. It administers a series of examinations leading initially to Associateship and the designation A.S.A. and ultimately to Fellowship with the designation F.S.A.

AMORTIZATION. Paying off an interest-bearing liability by means of periodic payments, as opposed to paying it off with a lump sum payment.

EXPERIENCE GAIN (LOSS). A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.

NORMAL COST. The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost." Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

PLAN TERMINATION LIABILITY. The actuarial present value of future plan benefits based on the assumption that there will be no further accruals for future service and salary. The termination liability will generally be less than the liabilities computed on a "going concern" basis and is not normally determined in a routine actuarial valuation.

RESERVE ACCOUNT. An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

UNFUNDED ACTUARIAL ACCRUED LIABILITY. The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability."

VALUATION ASSETS. The value of current plan assets recognized for valuation purposes.