



International Union of Pure and Applied Chemistry

INVESTMENT POLICY STATEMENT

1.0 PURPOSE

The purpose of this document is to identify a set of investment objectives and constraints, asset allocation parameters, performance measurement benchmarks, and guidelines for the International Union of Pure and Applied Chemistry (IUPAC) long term investments. The investment policy statement is intended to assure the Officers, Executive Committee and Bureau of IUPAC that reserve assets are being invested in accordance with the best long-term interests of IUPAC, given the following considerations:

- IUPAC's risk tolerance, or its willingness to withstand substantial losses due to adverse market conditions.
- IUPAC's need to obtain real, or inflation-adjusted, growth in its asset base.
- IUPAC's requirement for current income to support IUPAC programs and activities.
- IUPAC's liquidity requirements, or its need to maintain adequate cash balances to accommodate share withdrawals from the long term portfolio when needed.

2.0 INVESTMENT OBJECTIVES AND CONSTRAINTS

2.1 Objectives

The primary objective of having reserve funds is provide continuity in the programs set out in the IUPAC Strategic Plan regardless of short term financial discontinuities and disruptions. With this objective, the reserve funds must (1) provide protection for biennial operating expenses, (2) provide for periodic, planned extraordinary expenses (such as moving the Secretariat), (3) provide for extraordinary expenses in connection with General Assembly and Congress meetings held in regions of the world which would increase the normal expenses, and (4) support endowed programs of the organization. It is expected that under normal circumstances, the National Subscriptions plus other annual sources of operating income will cover normal operating expenses.

To meet these objectives the reserve funds of IUPAC must earn an annual real, or inflation adjusted (OECD), total return of 4.5%. It is recognized that the real return objective may not be achieved during each year, however, the fund will be structured to enhance the probability of earning an annualized real return of 4.5% over the long term.

The risk tolerance of the organization should be viewed as moderate. Volatility in the fund's returns can be tolerated provided that there are reasonable expectations that the fund will achieve its desired return over the long term. The reserve portfolio will not be structured to incur unnecessary risk. On an overall portfolio basis, risk shall be controlled through the use of more than one asset class as well as a regional distribution of investments throughout the world, consistent with the investment objectives.



2.2 Constraints

The liquidity requirements of the reserve funds are minimal. At least 2% of the fund shall be available on short notice (30 days) for conversion into liquid assets without significant penalty.

Since IUPAC’s 501 (c)(3) tax-exempt status extends to the reserve funds, tax considerations are not a constraint in the management of this fund.

3.0 ASSET CLASSES AND ALLOCATION

In order to minimize the total risk of the reserve funds, three asset classes will be utilized in order to derive the benefits of diversification. Accordingly, the investment portfolio will be managed as a balanced fund consisting of mutual funds, bonds, and cash equivalents.

Asset allocation will be structured to achieve the primary objective of an inflation-adjusted annualized return of 4.5% over a full market cycle. The following are the annual total returns, in real terms, and standard deviations for stocks, bonds and Treasury Bills for the twenty-five year period from 1975-1999 inclusive:

<u>Asset Class</u>	<u>Annual Real Return</u>	<u>Standard Deviation of Real Return</u>
Equities (Large Companies)	13.2%	14.4%
Bonds (Long-term Corporate)	5.4%	13.8%
Cash Equivalents	2.0%	2.6%

SOURCE: Stocks, Bonds, Bills, and Inflation: 1996 Yearbook, Chicago, Ibbotson Associates, 1996

Given these historic returns, it is apparent that a large percentage of the reserve fund assets must be invested in equities in order to achieve a real return of 4.5%. The remainder of the portfolio will be invested in bonds and cash equivalents in order to meet the stated return objective and accomplish an appropriate level of diversification. The proposed asset allocation for the reserve funds is:

<u>Asset Class</u>	<u>Percent of Total Assets</u>	<u>Annual Real Return</u>	<u>Weighted Real Return</u>
Equities	50%	13.2%	6.60%
Bonds	48%	5.4%	2.59%
Cash Equivalents	2%	2.0%	0.04%
Total	100%		9.23%

The Weighted Real Return of the reserve fund portfolio based on historical performance is somewhat higher than the target of 4.5%, however the weighted standard deviation of the historical return is 14.0%

The balance between stocks and bonds will be determined by prevailing capital market conditions and the relative valuations between asset classes.



4.0 PERFORMANCE MEASUREMENT

4.1 Total Return

The primary objective of the fund is to achieve an annualized total return, in real terms, of 4.5% over the long term. In terms of relative performance, the objective will be to outperform a benchmark portfolio. The return on each asset class will be that of its respective market index (i.e. MSCI-North America, MSCI-Europe, Lehman Brothers Aggregate Index, etc.). Analysis of the actual return of the reserve fund as compared to the benchmark portfolio will determine if adjustments need to be made to the portfolio. While this analysis will be done on a quarterly basis, adjustments to the portfolio shall be made on an annual basis after review and discussion of the portfolio performance at the Finance Committee meeting early in the year.

5.0 REPORTING

The Chairman of the Finance Committee and the Treasurer will report on the performance of the reserve funds at each meeting of the Executive Committee and as appropriate at the Bureau and Council meetings.

Year 2001 Performance

For the year 2001, the long-term portfolio showed the following performance in comparison with the relevant indices.

<u>Asset Class</u>	<u>Percent of Total Assets (Ave. during Yr.)</u>	<u>Annual Total Return</u>	<u>Annual Weighted Return</u>
Equities	47%	13.6%	-6.4%
Bonds	52%	7.4%	3.8%
Cash Equivalents	1%	2.5%	0.1%
Total	100%		-2.5%
MSCI-North America	37%	-13.6%	-5.0%
MSCI-Europe	25%	-21.2%	-5.3%
LBCB Index	37%	8.4%	3.1%
Total			-7.2%

- MSCI is the Morgan Stanley Capital Index that is reported country by country as well as by region. The LBCB Index is the Lehman Brothers Corporate Bond Index, which is reported annually.
- Annual Weighted Return is the Percent of Total Assets (Average during the Year) in a given Asset Class multiplied by the Annual Total Return.

It is interesting to note that the IUPAC Total portfolio performed better than the weighted total portfolio predicted by the indices (-2.5% vs. -7.2%). The equity portion of the IUPAC portfolio performed better than the combined indices for Europe and North America whereas the IUPAC bonds under-performed the Lehman Bond Index.