

Item 9: Biennial Report of Treasurer and Report of Finance Committee

Treasurer's Review

General Remarks

I would like to present IUPAC's financial status by providing an audited statement of income and spending. We have presented our detailed financial statement in last year's July issue of *Chemistry International*. We will again report the status of IUPAC finances in *CI* later this year. In addition, the Bureau and Council will have the opportunity to vote on the budgets for the next biennium at our General Assembly in Brisbane. This biennial report is also a good place to give answers on some of the questions about IUPAC finances.

WHERE DOES IUPAC GET ITS MONEY ?

IUPAC has the following main sources of income :

Membership dues from National Adhering Organizations (NAOs). The NAOs support IUPAC's role as a leading international body in the field of chemistry through active programs and project work in the fields of nomenclature, research, teaching, and systems providing unimpeded access to information. This is our principal source of net income. The national subscriptions are based on the national chemical turnover through an established formula. The calculations of the chemical turnover and the payments are made in US Dollars. Voting representation of each member country is broadly related to the national subscription ensuring the voice of each NAO in the international world of chemistry. Solidarity and commitment are the warranty for a sustainable work in IUPAC. Unfortunately we see some serious signs of discontinuity in the future.

Publications : Our publication *Pure and Applied Chemistry* has become - at least for the time being - a very important source of income. This was in particular possible by a switch from external publishing to IUPAC becoming its own publisher. We have kept the fees for the subscriptions over the last years constant. Due to higher printing and transport costs we should increase the price moderately.

Interest on our Investments : In the past few years, the excellent performance of financial markets has allowed IUPAC to grow the long-term account to finance different endeavors.(see details in comment of the Chairman of the Finance Committee). However, the past two years the investment markets were difficult and therefore the available income smaller than in earlier years.

Grants : Periodically ICSU and IUPAC collaborate on projects. Such project-related funds are not part of our regular income.

Donations : Unfortunately this part is actually very small. However there are some opportunities for project funding in the area of research and education. We definitely need more effort in this area to receive funds from industry and other agencies.

HOW DOES IUPAC SPEND ITS MONEY?

IUPAC is a nonprofit organization and any revenue is used to support chemistry activities around the world. The IUPAC Strategic Plan has to facilitate such focused activities.

Item 9: Biennial Report of Treasurer and Report of Finance Committee

The main expenses of IUPAC are :

Scientific advisory activities : The Divisions and Committees of IUPAC have the responsibility to produce scientific evidence to support nomenclature (e.g. together with Chemical Abstracts , Beilstein Society and Patent Agencies), standardization, research , teaching and information systems (e.g. web site) to sustain chemical science in the service of mankind.

Publications : IUPAC publishes *Chemistry International* as an information tool to stay in contact with its members and *Pure and Applied Chemistry*, a scientific journal for a wider scientific international community mainly informing about IUPAC's project work and providing lectures from IUPAC-sponsored conferences. Through careful management, the overall expenses for this publication have been substantially reduced.

International Meetings : IUPAC supports a number of international meetings - including the world congresses - with loans, grants, and travel subsidies - in line with programs and project work .

REDUCTION OF ADMINISTRATIVE COSTS

Administrative costs have been well managed in the last biennium. The move from Oxford to Research Triangle Park has been very beneficial in terms of cost and benefit .The addition of staff is carefully evaluated and only accepted if a clear benefit for IUPAC can be demonstrated. Many services are done under contract which helps keep costs down.

FUTURE INITIATIVES

IUPAC is on the way to focus more in project-driven activities. It may present a big challenge to make this move fast and without losing know-how. Furthermore, a revision of the Strategic Plan will support the better focus and a more efficient resource allocation.

Item 9: Biennial Report of Treasurer and Report of Finance Committee

Income and Expenses

A major and successful financial turnaround is the best description of what happened during the period 1991-1999 under Prof. John Ward as treasurer. The financial health of IUPAC is therefore good. The future, however, has some downside risks which may be anticipated as a review of the financial summary* of the last three years clearly shows.

Support	1998	1999	2000
Grants and contributions	65 000	31 000	7 000
National Subscriptions	658 455	689 650	677 591
Affiliate membership program	58 969	74 436	71 957
Total Support	782 424	795 086	756 548
Other Revenues			
Publications	394 608	431 505	727 982 ⁺
Investment income	257 827	413 225	23 779
Other	17 126	27 793	34 188
Total other revenues	669 561	872 523	785 949
Total Support and other revenues	1 451 985	1 667 609	1 542 497
Expenses			
Program	495 653	777 505	699 956
Management and general	452 927	533 795	669 667 ⁺
Total expenses	948 580	1 311 300	1 369 623
Increase in net assets	503 405	356 309	172 874
Net assets, beginning of year	3 561 578	4 064 983	4 421 292
Net assets , end of year	4 064 983	4 421 292	4 594 166

*ref. Audit reports – in USD of the year

⁺ reflects large increases in both income and expenses from self-publishing

This summary indicates that our total financial support in 2000 was down some 8% over the previous year due in part to a decrease in grants and contributions from outside sources and a decline in National Subscriptions (due to some countries with financial problems and membership cancellations). Additionally, the investment environment was difficult in 2000 and the impact is quite apparent in our investment income. In the area of publications, the impact of the move from outside to inside publishing in 2000 is very positive. Even the fact that we have higher administrative costs associated with this change, the net income from publications is greater under the new system than it was with an outside publisher.

The bottom line shows a steady but declining increase in net assets.

Item 9: Biennial Report of Treasurer and Report of Finance Committee

A special report on the long-term investments and the reserve funds is given in the report of Dr. Przybylowicz which follows.

Summary and Conclusions

The analysis of the above table indicates that the financial health of IUPAC is good, the reserves are still growing, but our income side has some areas of concern. On the expense side, the move from commission-driven costs to a more project-driven activity remains to be experienced. As a starting point, we are planning that the balance between operations and projects will be 25%/75%. It remains to be seen whether experience will bear this out. It's possible that we may not fully use the allocated project funds in the Division and the Division Reserve in the next period. For this reason we propose that there be only a 1% increase per annum in the National Subscriptions for the next biennium. To help offset increases in publication costs we are recommending that the publications committee consider a 5% per annum increase in the subscription of *PAC*. Beyond this biennium, we may have to be prepared to increase the National Subscription in the period 2003 - 2005 at a higher rate depending on our experience with the new project system.

It is most important that we spend IUPAC funds on strategically important projects, making visible to our outside world of customers those accomplishments that IUPAC is in a unique position to provide. This will require focussing on fewer, high priority tasks. For the next biennium the allocation to the Divisions will follow mainly the pattern of past expenditures as proposed to the Bureau at its meeting in Cobham, England. As we take on new tasks, like the proposed "Nomenclature " Division, some more activity in COCI and educational efforts - the allocations will be different.

The next biennium in many respects is a provisional one with some uncertainties that will be resolved through the experience of the next two years. For future biennia, it will be up to the Executive Committee and the Bureau to develop focused strategies giving clear guidelines to the Financial Committee and to the Treasurer to allocate the funds in the most sensible way.

Acknowledgment

The present work of the Treasurer was only possible thanks to the great cooperation and help of the Executive Director, the Finance Committee and last but not least the outstanding heritage of my predecessor Prof. Ward.

Item 9: Biennial Report of Treasurer and Report of Finance Committee

Finance Committee Report

According to the standing orders of the Finance Committee (FC), it is charged broadly with financial advice to IUPAC as well as responsibility for IUPAC securities in the long-term accounts.

The investment market in the past two years was very mixed. The year 1999 showed poor performance early in the year, however the 4th quarter ended strong. In 2000 the markets took a decided turn downward from the preceding several years when growth was high. It was the end of a prolonged period of outstanding investment opportunities. The downward turn in the market, especially during the past year had its way with the IUPAC portfolio.

For the biennium, 1999-2000, the value of our long-term portfolio increased from \$3,465,219 to \$4,359,888 or 25.8%. However, a significant portion of this increase is due to under-running the operating budgets during this biennium and transfer of those funds to the long-term account. During 1999, the investments yielded an 11.9% increase largely due to a market rally in the 4th quarter of the year. During the year 2000, however, our investments decreased in value by 1% in an equity investment market that decreased by over 9%. Financially, we have done well in a rather poor investment market.

In view of the recent volatility of the equity markets and the goal of the FC to “preserve capital”, a decision was taken at the FC meeting in March, 2001 to move to a 50/50 ratio of equity-to-fixed income in the long term portfolio.

The Finance Committee and Executive Committee also approved an IUPAC Investment Policy which follows this report. Additionally, the FC approved a Fund Policy Statement which provides an annual operating description of how the long-term investment account is allocated to various funds of the organization. This policy statement is also attached.

In summary, the long-term investment account of IUPAC is in good shape and can provide financial stability for the annual operations of the union as well as income to support certain special projects. As the Treasurer pointed out in his report, the health of this account depends upon a continued strong investment market.

As FC chairman, my thanks go to our Treasurer and the FC committee members for their advice and counsel as well as to the officers of IUPAC for their continued support. Special thanks go to Dr. Alfred Hartmann, a retired member of the FC and Dr. John Ward, past-Treasurer who have attended the FC meetings during the past two years and participated in our deliberations.

Item 9: Biennial Report of Treasurer and Report of Finance Committee
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 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.

Item 9: Biennial Report of Treasurer and Report of Finance Committee

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: 2000 Yearbook, Chicago, Ibbotson Associates, 2000.

Given these historic returns, it is apparent that some 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.

Item 9: Biennial Report of Treasurer and Report of Finance Committee

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 2000 Performance**

For the year 2000, 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	62%	- 4.1%	-2.5%
Bonds	37%	4.7%	1.7%
Cash Equivalents	1%	4.5%	0.1%
Total	100%	- 0.7%	-0.7%
MSCI-North America	37%	-12.79%	-4.73%
MSCI-Europe	25%	-9.66%	-2.42%
LBCB Index	37%	9.07%	6.35%
Total			-0.8%

Key:

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 close to the weighted total portfolio predicted by the indices (0.7% vs. 0.8%). However, the equity portion of the IUPAC portfolio performed better than the indices for Europe and North America whereas the IUPAC bonds under-performed the Lehman Bond Index.

Item 9: Biennial Report of Treasurer and Report of Finance Committee
International Union of Pure and Applied Chemistry

Fund Policy Statements

1.0 PURPOSE

Biennium Operating Reserve Fund This fund shall contain an amount of money equal to the currently approved biennium budget minus the operating funds for the publications. It is the prime financial protection for the Union in the event of a severe worldwide economic downturn.

Southern Hemisphere Sinking Fund This fund shall be reviewed by the Finance Committee Meeting at its annual meeting and additions made as appropriate with the fund total never exceeding \$250,000.

Young Scientists Awards Fund This will be an endowment fund which is set at an amount such that a 5% yield on the principal will result in sufficient funds to cover the cost the IUPAC Prize and the biennial subsidy to young observers in the host country for attendance of the General Assembly and Congress.

Endowment Reserve This fund will be the “residual” of the total long term investment account and will provide a 5% yield on this amount of funds for special projects including matching funds contributed from organizations outside IUPAC.

2.0 Investment of Funds

The aggregate of the four funds are managed as a single long term portfolio according to the IUPAC Investment Policy and the guidelines contained therein.

3.0 Allocations to Funds

Biennium Operating Reserve Fund This fund shall contain an amount equal to the actual operating expenses for the previous biennium, less publication expenses.

Southern Hemisphere Sinking Fund This will be set at a maximum of USD 250,000. This fund is intended to provide money for General Assemblies in particularly expensive locations and will be replenished as necessary by the Finance Committee.

Young Scientists Awards Fund The level of this fund is currently set at \$530,000. It will be used to fund the IUPAC Young Scientists Prize and the Young Scientists travel grants to the IUPAC Congress.

Endowment Fund Reserve Fund This is equal to the balance of the amount in the reserve and the income will be used to fund special projects as decided by the Bureau.

4.0 Disbursement Guidelines from Funds

Disbursement of funds from these accounts must be approved by the Finance Committee, or the Treasurer and Chairman acting on behalf of the Finance Committee.

As needed funds from the Biennium Operating Reserve Fund and Southern Hemisphere Sinking Fund may be approved for disbursement, decreasing these funds until new levels are established at the annual Finance Committee meeting.

Item 9: Biennial Report of Treasurer and Report of Finance Committee

The Young Scientists Awards Fund will maintain its principal and the funds available for disbursement will not exceed the 5% yield on this.

The Endowment Reserve Fund will maintain its principal and the funds available for disbursement will not exceed the annual yield on this fund at 5%.