

Report to the ICSU Executive Board of the Working Group to Review ICSU's Dues Structure

*Dr Steve Thompson, New Zealand, Chair
2 August 2007*

Contents:

Introduction	Page 1
Terms of Reference	Page 1
Background	Page 1
Working Group Membership	Page 2
1. Definition of the Problem, and Working Group Objective	Page 2
2. Alternative Models and Proposals for Determining Dues	Page 4
3. Transition to a New System	Page 7
4. Dues, Voting and Influence in ICSU	Page 7
5. Value for Money	Page 8
6. Summary of Recommendations	Page 10
Appendix 1: Working Group Contact details	Page 11
Appendix 2: Current and Proposed National Member Dues	Page 12
Appendix 3: Current and Proposed Union Dues	Page 14

Introduction

The Executive Board (EB) of the International Council for Science (ICSU) proposed to its 28th General Assembly, held in China in October 2005, that a review of ICSU's dues structure be conducted over the next triennium, with a view to presenting a proposal to the next General Assembly for a revised structure. It was noted that such a review should include a full consultation with members. Members unanimously supported the proposal and stressed the urgency of the review. The formal decision of the General Assembly was:

“To request the EB to establish a Working Group, in full consultation with members, to consider the member dues structure. The Working Group shall report back to the EB as soon as possible. The EB shall then submit the report and the EB's recommendation to the members for a vote by whatever means it determines to be expeditious”

In the light of this decision, the Executive Board developed the following terms of reference for the review:

Terms of Reference

1. To fully define the problems with the current dues structure from the perspective both of ICSU and its members (to include issues such as equity, transparency and sustainability);
2. to consider potential alternative models for determining dues, taking into account what other international governmental and non-governmental organizations do;
3. to propose a more appropriate mechanism for establishing the level of dues for a) National members, b) Unions and c) Associates;
4. To propose, as necessary, a mechanism for ensuring the transition from the current structure to the proposed new structure.

In this report, items 2 and 3 are presented together, for conciseness.

Background

ICSU member dues are currently paid on the basis of voluntary adherence to one of 51 nominal categories. In practice, what category National and Union members find themselves in is largely governed by history and, in many cases it no longer reflects either economic or scientific strength. In contrast to ICSU, most international organizations link their dues structure to an objective indicator,

such as GDP for a member nation or total budget for a member organization. Index-linking in this way increases both the stability and the transparency of the funding structure.

In recent years some members have begun to question the dues structure of ICSU and some have changed their payment categories. Such decisions have not necessarily been based on value for money assessments but rather have reflected other financial and policy considerations within the member organizations. Such cases illustrate the vulnerability for ICSU of the current voluntary mechanism. However, it is also recognized that switching to an index-linked mechanism could result in a request for significant increases in subscriptions for some members. Such a change would need to be carefully planned and could only be introduced after full consultation with members. The Table below gives a snapshot of the size of ICSU's budget, which shows the contribution coming from members at just over 60% of total.

Table 1: ICSU's 2005 Budget

	2005, in Euros
Total Income	3,033,468
Income from Membership Dues	1,898,771
Membership Dues as a % of Total Income	62.59%

Working Group Membership

Members of the Working Group, appointed by ICSU, are:

Ian Cooper (UK)
Roger Elliott (ICSU Treasurer [UK])
Jan Joep De Pont (IUBMB [Netherlands])
Martin Groetschel (IMU [Germany])
Bryan Henry (Chair, ICSU Committee on Finance [IUPAC, Canada], unable to attend October meeting)
John Jost (IUPAC [USA]) invited to attend October meeting by Chair
Joseph O. Malo (Kenya)
Wataru Nishigahiro (Japan)
Yves Petroff (IUPAP [France])
Donald Saari (USA)
Thomas Rosswall (ICSU Executive Director [(Sweden)])
Steve Thompson (Working Group Chair, New Zealand)

Working Group members are appointed in their personal capacities, rather than as representatives of Unions or National members.

1. Definition of the Problem, and Working Group Objective

ICSU's terms of reference ask the Working Group to define problems with the current dues structure from the perspectives both of ICSU and its members (to include issues such as equity, transparency and sustainability).

The overall objective is for ICSU's income to cover its approved budget to carry out its strategic plan and activities. Group members raised a number of issues which they saw as needing to be addressed. Early in the discussions, several members raised the possibility of voting weighted by amount of dues paid. Several members also expressed a wish to see some measures of "value for money" developed. Neither of these issues is listed in the group's terms of reference, but the group did consider dues formulae which would be compatible with weighted voting as one form of equity (TOR 1). Discussions around voting/influence in ICSU, and "value for money" are seen as complex and important issues in their own right and are addressed in sections 4 and 5 of this report. Other aspects of problem definition included:

1.1. An Objective Basis for Calculation of Membership Dues

1. Should more transparency imply a mechanism whereby each ICSU member understands and agrees how the dues are computed?

2. Should payment in-kind or voluntary additional payments be recognized when calculating the full support provided to ICSU by members?
3. Should dues payments be simplified into “bands” or “steps” (there are 51 such bands in the current system)?

1.2. Equity and Transparency in Membership Dues

4. A concern was discussed concerning the Union and National member balance. Dues from the Unions account for some 8% of the ICSU income, but votes in ICSU’s General Assembly are weighted to assign them 50% of the voting power. The importance of the Unions justifies a weighting of voting power, but should it be 50-50?
5. Current ICSU data show a trend-line whereby many smaller National members pay more than if their share were prorated to GDP, and large members pay less.
6. Is it equitable that about two-thirds of ICSU’s income comes from the dues (plus a voluntary contribution from the USA) paid by six National members, but their voice in decisions through votes is less than 4%?
7. Current national funding cycles, and national methods of funding ICSU members may limit a National member’s ability to change its future dues payments with any rapidity.
8. Which is the best method of calculating dues? Three which come to mind are: Pro-rating to GDP; pro-rating to “science expenditure”, or payment by “value for money”. While some form of “value for money” pricing might ideally reflect market forces, its measurement would be the least transparent. Linking dues to science expenditure is attractive in principle, but difficult to measure¹. GDP figures are widely available, but not necessarily the best theoretical basis.

1.3. Sustainability of ICSU and its Budget

9. Does a system of voluntary dues create potential budgetary instabilities for ICSU? Should any new system be voluntary or compulsory? In addition to equity and transparency, there is the problem of sustainability of the dues structure, of the ICSU budget, and of members finding support for their dues.
10. Should any “banded” system of dues payments encourage or allow for voluntary over-payments
11. Should a cap be set on contributions from those paying the highest contributions, or a minimum from those paying the lowest contributions? How would caps and minima affect ICSU’s budget?

1.4. Working Group Objective

The main objective arising from the issues examined above was defined as:

***Achieving long term equity in the dues structure,
according to some measure of economic or scientific “weight” of members.***

Subject to the new system being:

- ***Able to meet ICSU’s approved budget requirements.***
- ***Acceptable to current members.***
- ***Simple in its calculation and application.***
- ***Predictable, so that members could calculate their future payments with some certainty.***
- ***Stable, so that year-to-year variability would be minimised.***
- ***Phased in at a rate that would allow members’ adaptation and budgeting.***
- ***Not a radical departure from the current system.***

¹ For example: can a transparent and predictable approach be devised using some sort of science index? Might the level of National dues best be correlated with whom the National body represents within ICSU? Should a country’s expenditures for military and commercial development, for instance, be included if they do not contribute to the National body?

2. Alternative Models and Proposals for Determining Dues

ICSU's terms of reference 2 and 3 ask the Working Group to consider alternative models and to propose a mechanism for determining dues, taking into account what other international governmental and non-governmental organizations do. One of the models available is of course the status quo, and any new model will need to show clear advantages over the current system. It was agreed that the following factors would be examined:

1. A compulsory or voluntary system?
2. A compulsory minimum amount?
3. An option or incentive to pay more than the minimum?
4. How should Unions' votes relate to those of the National members?
5. Are different mechanisms needed for Unions and National members?
6. Should in-kind support also be considered and encouraged (eg. secondments, voluntary contributions)?
7. Should any voting be weighted according to category of payment?
8. Should the new system reflect some measure of the economic or scientific "weight" or influence of a member?
9. Should indicators be derived from quantitative data that are generally available and "objective"?
10. The model derived from these indicators should be clear and robust.
11. Should there be caps or minima on dues from high and low-dues members?
12. Can the new model take the existing model and transition arrangements into account?
13. How can we ensure that no member is inequitably disadvantaged by a new structure?

For national members, two versions of "weight" were given serious thought: a *financial* indicator and a *scientific* indicator. Various models for the calculation of dues were explored as follows:

National Members:

1. Dues based on a financial indicator

- a. raw (or ppp) GDP
- b. attenuated GDP - UN Assessments

2. Dues based on a scientific indicator

- eg. OECD Governments' expenditures on R&D with assumptions for those not covered by OECD figures.
- For stability, figures to be based on a rolling period (eg. Y-2 to Y-7)

2.1 National Members:

Dues Based on a Financial Indicator:

This implies that dues should reflect the financial ability of a member to contribute to ICSU. Thought was given to using the budget situation of a national member's institution as an indicator, but it was quickly realized that the national institutions are so different that financial data from these institutions cannot form the basis of the desired dues system.

The group considered that acceptable objectivity can be reached by basing national dues on some measure representing the size of a national economy, for example, gross domestic product (GDP). GDP data are easily available for all countries and are accurate for the major contributors to ICSU.

An issue arising here is whether or not "raw GDP" should be employed, or GDP at purchasing power parity (ppp), or whether a UN model, eg. its "assessed payments" includes debt burden and low per capita income should be used. Another UN example is where some countries contribute high proportions of the costs, hold a permanent seat on the Security Council and staff many UN committees. We understand that Japan is currently pushing for a readjustment of UN dues to more accurately reflect a country's status within the UN. Other examples include differential voting within the EU, within different international unions, and bicameral legislatures designed to reflect population differences. The group decided to use raw GDP. The ppp and UN

alterations to the raw GDP reflect compromises that mean more to economic specialists than to ICSU. Test calculations showed that formulae based on UN assessments produce outliers that are not easy to deal with.

Dues Based on a Scientific Indicator:

We investigated making a “scientific” index as a basis for an ICSU dues system. Eventually we shelved the idea due to the unavailability of reliable quantitative data. An example elucidates the difficulties here. One possible way to estimate scientific expenditure is to add the expenditures on Higher Education R&D (HERD) and GOVERD (Government expenditures on R&D) data. For Finland this gives 1.1% of GDP. But Finland is a research intensive country, spending about 3.5% of its GDP on R&D in 2005. In other words, ignoring industrial R&D expenditures in Finland could provide a skewed picture of Finland’s scientific weight. A more serious problem is that, for more than half of ICSU’s members, HERD and GOVERD data are not available. This would make judgment of their scientific weight a guess at best.

A Rolling Period:

To enhance predictability and stability for ICSU members when calculating their dues, the group discussed use of GDP figures based on a rolling historic period. For example, for dues to be set in 2008, a rolling average of GDP figures available for 2004, 05 and 06 might be used. We reviewed whether the average should be rolled over 3 or 5 years, or some other period, and concluded that a 3-year rolling average would suffice.

Banded Payments:

The group examined a dues system which pro-rates national members’ dues to their GDP. However, this could result in inconsequentially small payments for some, and in radically increased dues for others. To achieve simplicity and transparency, the group examined a banding approach. In our view, such banding should be viewed as determining lower bounds. There was some discussion of the willingness of high-paying members to maintain their present rates, rather than reduce to the minimum allowed in their band. As a working model, the group examined 10 categories of member countries, to replace the current 51 bands.

Capping Dues:

A cap on dues, which is standard in the UN system, was discussed as a possibility, and this notion was eventually incorporated into a banding system for dues. Discussion took place around the level of dues that would be ascribed to the United States. The Working Group discussed a cap on this highest contribution, which might otherwise rise substantially. Moreover, this contribution should be regarded as the sum of its compulsory dues and voluntary payments.

Recommendations - that:

- 1. Dues be based on a model based on raw GDP figures. The GDP figures would be the average of the latest 3 years available (the Working Group used only 2005 GDP figures in their example calculations).***
- 2. 10 bands be used, rather than the current 51.***
- 3. A minimum payment of €1,000 be required.***
- 4. A cap be placed on the top band amount (currently paid by the United States²).***
- 5. In-kind contributions to ICSU be encouraged and recognised in some way.***

Implications for National Members

Worked examples of the implications for ICSU National members are shown in Appendix 2. This shows a member’s current dues (col A), what it would pay (col E) if its share of ICSU’s budget were pro-rated by GDP, and what it would pay if these shares were “rounded” into 10 bands of membership dues (col H). The rounded dues totalling from this banded structure also happen to give ICSU a slight windfall gain. Note that the banding is done by reference to GDPs as a *percentage* of total GDP, rather than by actual GDP values in any one year. This prevents the need for frequent re-assessment of band boundaries. Whenever the actual payments in each band are reviewed, they will still need to be calculated so that, in total, they provide sufficient income to fuel ICSU’s approved budget.

² Note that the US already makes a voluntary contribution which brings its total payment in 2007 up to €480,999

Two examples, drawn from Appendix 2, would see Japan pay in a band of €200,000, up from its current €181,628; while Poland would pay €13,000, down from its current €13,472 – unless it voluntarily maintained its higher rate. More extreme rises are seen in the case of Mexico, Korea and Indonesia, while Russia, Sweden and Finland would see large decreases if they wanted to take advantage of them.

A Note on Alternatives

Following the group's initial calculations, shown in Appendix 2, some alternatives were suggested by individual members. The options they presented can be summarised as:

1. Move Japan from band 2 (€200,000) to band 3 (Germany, China, UK and France) at €180,000, but maintain 10 bands by simultaneously...
2. Splitting band 8 into 8b (Malaysia to Peru, [$\geq 0.10\%$] paying €4,000; and 8a (Ireland to Portugal), [$\geq 0.15\%$] paying €8,000)
3. Reduce band 3 (Germany, China, UK and France) from €180,000 to €150,000 (to be nearer to the band average of \$101,390)
4. Increase band 4 (Italy) from €120,000 to 128,000 and band 5 (Spain, Canada) from €50,000 to €64,000
5. Reduce band 5 (Brazil to Netherlands) from €35,000 to €32,000
6. Move Greece and South Africa from band 6 (€13,000) to band 7 (€8,000)
7. Reduce band 7 dues from €8,000 to €5,000
8. Move Serbia&Montegro to Lebanon from band 9 (€1,500) to band 10 (€1,000)

The group considered these alternatives, and those group members expressing an opinion preferred the recommendations as set out in Appendix 2. While changes of this nature should indeed be considered, care should be exercised to avoid lobbying and fine tuning which, in the end, could destroy the original intent of banding. It should also be noted that implementing such changes will alter (though not in a major way) the total sum accruing to ICSU.

2.2 ICSU Union Members:

The group also examined a similar banded system with 4 categories for scientific unions. Currently dues paid by Unions are set by the voluntary selection by each Union of a membership category. The Working Group concluded that the operating expenses of the Unions were an appropriate objective measure of ability to pay dues to ICSU. The group examined a system based on operating expenses (excluding "pass through" money) over a rolling period of years according to each Union's own internal cycle of activity (eg. triennial conferences). Unions would be asked to inform ICSU into which band they fell.

Recommendations - that:

6: Four bands be created for Union dues, as above, and

7: Unions select their appropriate band based on their declared operating expenses over a rolling period of years according to each Union's own internal cycle of activity.

Implications for Unions

Appendix 3 shows the 2006 dues for each Union in Euros and as a % of total, Column C shows the *operating* expenses for each Union as reported to ICSU. The operating expenses of the Unions should not include so-called "pass through" or "restricted" expenses *ie.* funds granted by a third party that are only administered by the Union.

The appendix shows a member's current dues (col A), what it would pay (col E) if its share of ICSU's budget were pro-rated by its operating expenses, and what it would pay if these shares were "rounded" into 4 bands of membership dues (col H). The dues totalling from such a banded structure would also give ICSU a slight loss from overall Union dues – unless Unions voluntarily maintained their higher rates.

Column F is the difference between the dues currently paid by each Union and the dues calculated from the operating expenses. The group concluded that rather than setting dues based

on the exact individual calculations, these calculations should be used to determine a number of bands, where each Union in a given band would pay the same amount. The bands were set as $\geq \text{€}1,000,000$, $\geq \text{€}400,000$, $\geq \text{€}100,000$, and $< \text{€}100,000$. Assignment of Unions to these bands is shown in column J. It is also proposed that Unions would select their appropriate band based on their declared operating expenses rather than being assigned to a band based on the information available to the ICSU Secretariat.

2.3 Scientific Associates:

Scientific Associates have paid US\$500 each since their introduction in 1990. In 2007 this will be paid in Euros. The group agreed the idea of one flat rate, but increased to a new minimum of €1,000 to cover ICSU's administrative expenses.

Recommendation 8: That the dues for Scientific Associates, be set at a new minimum level of €1,000.

2.4 Voluntary or Compulsory Dues?

Each member should pay at least as much as its category dues, but it is invited to maintain its old dues rate if it has paid more in previous years and to consider making in-kind contributions to ICSU. A lower bound on membership dues will increase the stability of ICSU's income. In the current system, every National member can choose its category unilaterally, and some members have decided to pay less than their share pro-rated by GDP. Members should no longer be able to downsize their dues payment, or take advantage of "free rides".

Recommendations - that:

9. The new dues structure be regarded as a "lower bound" by each member, with higher voluntary payments being encouraged.

10. Members may voluntarily move to a higher subscription band.

3. Transition to a New System

ICSU's terms of reference ask the Working Group to propose, as necessary, a mechanism for ensuring the transition from the current structure to the proposed new structure.

The group believes that, once adopted, one 3-year GA cycle should be sufficient to allow successful transition for most members. We briefly examined crawling pegs, limits on the *percentage* change per period, and limits on the *absolute* change per period for each member. All succumbed to the need for a transparent and easily-understood transition system. In the end we felt that, if any member wished to make a case to ICSU for special arrangements, then it would be free to present its reasoned arguments.

Recommendation 11: That the new mechanisms for National members, Unions and Associates become operative from 2012.

4. Dues, Voting and Influence in ICSU

Early in our discussions, the possibility was raised of voting or influence within ICSU weighted in some way by amount of dues paid. While this issue lay strictly beyond the terms of reference, it does of course have implications for equity in ICSU.

Influence within ICSU could be achieved in several ways, for example by permanent seats on Executive Board, appointments to committees and working groups, or when expressing a view during ICSU's triennial General Assembly. Direct influence can also be expressed during General Assembly voting, where the current system allows for one National Member = one vote, and one Union = one

vote, subject to a weighting so that National Members and Unions match each other in a 50:50 balance. Thus, voting is an accepted part of ICSU's procedures.

Nevertheless, voting related to dues payment has not been the norm within ICSU, neither was development of a voting scheme part of the terms of reference of this Working Group. The possibility does link to a dues structure in terms of equity, and most (not all) group members proposed that any proposed dues structure should couple voting (and influence within ICSU) with dues levels. Several group members did not wish to see one part of the proposal to be separated from the other.

During the Working Group's discussions, individual members made the following points:

1. Most, but not all, group members thought that the number of votes assigned to each National member should be correlated in some way with level of dues paid. It also was recognized that care must be exercised. With a linear correlation between dues and votes, for instance, the National member making the largest contribution would have 400 times more votes than some small members. This was viewed as unacceptable, so one challenge was to find ways to combine the number of assigned votes with non-voting ways to increase the "influence" of those members making larger contributions.
2. Several saw weighted voting as essential, while others saw it as a possible option. ICSU's highest paying members needed a value-added incentive (more influence in ICSU matters). However the weighting would not be linear. A weighted voting system might also encourage over-contributions' *ie.* members could voluntarily decide to pay over their scale fee and have consequent additional voting power.
3. It was noted that connecting the number of votes and level of dues might help gain support, hopefully sustainable support, from funding agencies.
4. Each band would carry an equivalent voting power *ie.* band ten – the highest band would carry ten votes and the minimum payment, band one – one vote.
5. The group also proposed that votes be assigned based on the amount of Union dues paid. A simple assignment of four votes to the highest band and one less vote to each lower band was proposed.
6. Such a banded system for National members and Unions would change the balance of GA votes from the current 50:50 to approx 70:30, which the group felt merited debate, given the ratio of 92% to 8% in income received from dues from the two groups of members.

The system outlined in points 4, 5 and 6 above is one possible way of correlating votes with the proposed dues structure. Other weightings are of course possible, but may interact with the band structure proposed, so that changes would be necessary in both.

The question of voting/influence is one with major implications in an organization like ICSU, and one which deserves study beyond that which this group was able to achieve in the time available while pursuing its main remit as defined by its terms of reference.

While changing a dues structure has financial implications for ICSU members, the notion that a revolutionary change in the fibre and nature of ICSU should be brought to a committee and not to the Executive Board directly by concerned members, seems surprising.

This group was formed by, and reports to, the Executive Board. There is no doubt that a majority of the members who expressed their views on the subject are committed to the view that dues and voting are inseparably linked. This report therefore brings the matter to the attention of Executive Board for their views on the issue, and by what process might it best be addressed.

Recommendation 12: That the Executive Board give serious consideration to the Working Group's views on voting, and determine by what process the issue might best be addressed.

5. Value for Money

Value for money can be seen from one standpoint as the chance to influence the workings of an organization, such as some of the items mentioned above: places on committees, voting power, moral suasion influence and the like. It can also be seen as ensuring that a methodology is in place to show how members benefit from membership of ICSU and how ICSU could demonstrate value for money to its members. The notion might also arise as to how members might best use and support ICSU as their voice in the international arena.

Financial support for National members to pay their dues may come from various sources; eg. competitive grants submitted to research funding agencies. Success in such competitions requires a more general appreciation about the value added through affiliation with ICSU. Thus, closely related to the dues question are issues about the role, value, level of visibility, and the evaluation of ICSU.

In recent years, ICSU has negotiated and put in place its first strategic plan. A natural progression from such a plan is its evaluation, and strategic plans are often followed by performance indicators and evaluations. Such evaluations, with regular reporting back to members and the General Assembly would provide the necessary accountability link from ICSU to its "shareholders".

The Working Group appreciates that indicators are notoriously difficult to pin down, and even more difficult at the international levels of general influence that ICSU works at. Nevertheless, the group does recommend that ICSU secretariat develop and propose a methodology for approval by its Executive Board and adoption by the General Assembly.

Recommendation 13: That ICSU secretariat develop and propose a methodology to monitor and evaluate implementation of its strategic plan, for approval by its Executive Board and adoption by the General Assembly.

6. Summary of Recommendations

Thirteen recommendations are made to ICSU's Executive Board, that:

National members:

1. *Dues be based on a model based on raw GDP figures. The GDP figures would be the average of the latest 3 years available (the Working Group used only 2005 GDP figures in their example calculations).*
2. *10 bands be used, rather than the current 51.*
3. *A minimum payment of €1,000 be required.*
4. *A cap be placed on the top band amount (currently paid by the United States).*
5. *In-kind contributions to ICSU be encouraged and recognised in some way.*

Unions:

6. *Four bands be created for Union dues*
7. *Unions select their appropriate band based on their declared operating expenses over a rolling period of years according to each Union's own internal cycle of activity.*

Associates

8. *The dues for Scientific Associates be set at a new minimum level of €1,000.*

All Members

9. *The new dues structure be regarded as a "lower bound" by each member, with higher voluntary payments being encouraged.*
10. *Members may voluntarily move to a higher subscription band.*

Transition:

11. *The new mechanisms for National members, Unions and Associates become operative from 2012.*

Voting and Influence:

12. *The Executive Board give serious consideration to the Working Group's views on voting, and determine by what process the issue might best be addressed.*

Value for Money:

13. *ICSU secretariat develop and propose a methodology to monitor and evaluate implementation of its strategic plan, for approval by its Executive Board and adoption by the General Assembly.*

Appendix 1: Working Group Contact details are:

Working Group members are appointed in their personal capacities, rather than as representatives of Unions or National members.

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Appendix 2: Current (col A) and Example (col H) National Member Dues

Column:-	A	B	C	D	E	F	G	H	I	J
Member	2007 Dues	Dues as % of total	Member GDP (recent year example)	GDP as % of total	Dues if pro-rated to GDP and fitted to ICSU budget	Difference between current and pro-rated Dues	Band Average	EXAMPLE Dues, 10 Bands using recent GDP	Difference between current and example dues (Column I – A)	Lower band Boundary - as GDP % of total - (Col D)
	€	%	US\$ billion	%	€	€	€	€	€	%
USA	238,999 ³	12.86	12,455	29.19	542,359	303,360	542,359	440,000 ⁴	201,001	≥ 20
Japan	181,628	9.78	4,506	10.56	196,211	14,583	196,211	200,000	18,372	≥ 10
Germany	181,628	9.78	2,782	6.52	121,139	-60,489	101,390	180,000	-1,628	≥ 4.5
China: CAST	62,051	3.34	2,229	5.22	97,056	35,005		180,000	117,949	
United Kingdom	181,628	9.78	2,193	5.14	95,475	-86,153		180,000	-1,628	
France	181,628	9.78	2,110	4.95	91,889	-89,739		180,000	-1,628	
Italy	117,444	6.32	1,723	4.04	75,030	-42,414	75,030	120,000	2,556	≥ 3
Spain	27,762	1.49	1,124	2.63	48,931	21,169	48,746	50,000	22,238	≥ 2
Canada	62,051	3.34	1,115	2.61	48,561	-13,490		50,000	-12,051	
Brazil	62,051	3.34	794.1	1.86	34,579	-27,472	32,315	35,000	-27,051	≥ 1
Korea, Republic of	7,538	0.41	787.6	1.85	34,297	26,759		35,000	27,462	
India	62,051	3.34	785.5	1.84	34,203	-27,848		35,000	-27,051	
Mexico	1,000	0.05	768.4	1.80	33,462	32,462		35,000	34,000	
Russia	62,051	3.34	763.7	1.79	33,256	-28,795		35,000	-27,051	
Australia	13,472	0.73	700.7	1.64	30,511	17,039		35,000	21,528	
Netherlands	24,464	1.32	594.8	1.39	25,899	1,435		35,000	10,536	
Switzerland	24,464	1.32	365.9	0.86	15,935	-8,529	13,355	13,000	-11,464	≥ 0.5
Belgium	24,464	1.32	364.7	0.85	15,882	-8,582		13,000	-11,464	
Turkey	4,682	0.25	363.3	0.85	15,820	11,138		13,000	8,318	
Sweden	56,996	3.07	354.1	0.83	15,420	-41,576		13,000	-43,996	
China: Taipei	27,762	1.49	346.0	0.81	15,067	-12,695		13,000	-14,762	
Saudi Arabia	1,605	0.09	309.8	0.73	13,489	11,884		13,000	11,395	
Austria	13,472	0.73	304.5	0.71	13,261	-211		13,000	-472	
Poland	13,472	0.73	299.2	0.70	13,027	-445		13,000	-472	
Indonesia	1,000	0.05	287.2	0.67	12,507	11,507		13,000	12,000	
Norway	13,472	0.73	283.9	0.67	12,363	-1,109		13,000	-472	
Denmark	24,464	1.32	254.4	0.60	11,078	-13,386		13,000	-11,464	
South Africa	18,531	1.00	240.2	0.56	10,457	-8,074		13,000	-5,531	
Greece	11,275	0.61	213.7	0.50	9,306	-1,969		13,000	1,725	
Ireland	4,682	0.25	196.4	0.46	8,552	3,870	5,647	5,000	318	≥ 0.15
Iran	1,000	0.05	196.3	0.46	8,550	7,550		5,000	4,000	
Finland	27,762	1.49	193.2	0.45	8,412	-19,350		5,000	-22,762	
Argentina	13,472	0.73	183.3	0.43	7,982	-5,490		5,000	-8,472	
Thailand	1,000	0.05	176.6	0.41	7,690	6,690		5,000	4,000	
Portugal	4,682	0.25	173.1	0.41	7,537	2,855		5,000	318	
Malaysia	1,000	0.05	130.1	0.31	5,667	4,667		5,000	4,000	
Israel	15,891	0.86	123.4	0.29	5,375	-10,516		5,000	-10,891	
Czech Republic	9,297	0.50	122.3	0.29	5,328	-3,969		5,000	-4,297	
Colombia	1,605	0.09	122.3	0.29	5,326	3,721		5,000	3,395	
Singapore	1,000	0.05	116.8	0.27	5,085	4,085		5,000	4,000	
Chile	11,275	0.61	115.2	0.27	5,019	-6,256		5,000	-6,275	

³ Does not include current US voluntary payment of €242,000

⁴ Would include US voluntary payment

Pakistan	1,000	0.05	110.7	0.26	4,822	3,822		5,000	4,000	
Hungary	7,538	0.41	109.2	0.26	4,753	-2,785		5,000	-2,538	
New Zealand	3,583	0.19	109.0	0.26	4,748	1,165		5,000	1,417	
Nigeria	1,000	0.05	98.95	0.23	4,309	3,309		5,000	4,000	
Romania	6,002	0.32	98.56	0.23	4,292	-1,710		5,000	-1,002	
Philippines	1,000	0.05	98.31	0.23	4,281	3,281		5,000	4,000	
Egypt	2,043	0.11	89.34	0.21	3,890	1,847		5,000	2,957	
Ukraine	1,000	0.05	81.66	0.19	3,556	2,556		5,000	4,000	
Peru	1,000	0.05	78.43	0.18	3,415	2,415		5,000	4,000	
Bangladesh	1,000	0.05	59.96	0.14	2,611	1,611	1,542	1,500	500	≥ 0.05
Morocco	1,000	0.05	51.75	0.12	2,253	1,253		1,500	500	
Slovak Republic	4,682	0.25	46.41	0.11	2,021	-2,661		1,500	-3,182	
Croatia	1,605	0.086	37.41	0.088	1,629	24		1,500	-105	
Luxembourg	1,605	0.086	33.78	0.079	1,471	-134		1,500	-105	
Serbia and Montenegro ⁵	1,000	0.054	27.06	0.063	1,178	178		1,500	500	
Bulgaria	1,605	0.086	26.65	0.062	1,160	-445		1,500	-105	
Lithuania	1,000	0.054	25.50	0.060	1,110	110		1,500	500	
Sri Lanka	1,000	0.054	23.48	0.055	1,022	22		1,500	500	
Lebanon	1,000	0.054	22.21	0.052	967	-33		1,500	500	
Kenya	1,000	0.054	17.98	0.042	783	-217	343	1,000	0	< 0.05
Latvia	1,000	0.054	15.77	0.037	687	-313		1,000	0	
Panama	1,000	0.054	15.47	0.036	674	-326		1,000	0	
Uzbekistan	1,000	0.054	13.67	0.032	595	-405		1,000	0	
Estonia	1,000	0.054	13.11	0.031	571	-429		1,000	0	
Iraq	1,000	0.054	12.60	0.030	549	-451		1,000	0	
Tanzania	1,000	0.054	12.11	0.028	527	-473		1,000	0	
Ethiopia	1,000	0.054	11.17	0.026	487	-513		1,000	0	
Ghana	1,000	0.054	10.70	0.025	466	-534		1,000	0	
Jamaica	1,605	0.086	9.696	0.023	422	-1,183		1,000	-605	
Bolivia	1,000	0.054	9.334	0.022	406	-594		1,000	0	
Nepal	1,000	0.054	7.346	0.017	320	-680		1,000	0	
Mauritius	1,000	0.054	6.447	0.015	281	-719		1,000	0	
Macedonia	1,000	0.054	5.762	0.014	251	-749		1,000	0	
Armenia	1,000	0.054	4.903	0.011	214	-786		1,000	0	
Zimbabwe	1,000	0.054	3.364	0.008	146	-854		1,000	0	
Togo	1,000	0.054	2.203	0.005	96	-904		1,000	0	
Mongolia	1,000	0.054	1.880	0.004	82	-918		1,000	0	
Cuba	1,000	0.054	-	0.000	-	-1,000		1,000	0	
Monaco	1,000	0.054	-	0.000	-	-1,000		1,000	0	
Montenegro ⁴	1,000	0.054	-	0.000	-	-1,000		1,000	0	
Vatican City	1,000	0.054	-	0.000	-	-1,000		1,000	0	
Total	1,858,039 (current income from members)	100%	42,669	100%	1,858,039 (= current income from members)			2,136,000 (new income from members)	277,961	

1. **NOTE:** The group considered variants to the banding scales, but in the interests of a clear question being put to the membership, has reduced these to one recommendation

⁵ See both “Serbia and Montenegro” and “Montenegro”

Appendix 3: Current (col A) and Example (col H) Union Dues

Column:-	A	B	C	D	E	F	G	H	I	J
Union	2007 Dues	Dues as % of total	Union Operating Expenses	Operating Expenses as % of total	Dues in € if pro-rated to Operating Expenses	Difference between current and pro-rates	Band Average	EXAMPLE Band Dues	Difference between current and example band	Lower Band Boundary (see Col C)
	€	%	€	%	€	€	€	€	€	€
IUCr	6,002	4.0%	3,227,834	28.1%	42,715	36,713	28,664	30,000	23,998	≥ 1,000,000
IBRO	2,043	1.3%	1,663,286	14.5%	22,011	19,968		30,000	27,957	
IUPAC	24,464	16.1%	1,606,995	14.0%	21,266	-3,198		30,000	5,536	
IAU	11,275	7.4%	787,867	6.9%	10,426	-849	8,307	7,000	-4,725	≥ 400,000
IUFRO	2,043	1.3%	467,558	4.1%	6,187	4,144		7,000	4,957	
IUPAP	13,472	8.9%	375,063	3.3%	4,963	-8,509	2,539	2,500	-10,972	≥ 80,000
IUNS	2,043	1.3%	315,980	2.8%	4,181	2,138		2,500	457	
IUGG	13,472	8.9%	303,308	2.6%	4,014	-9,458		2,500	-10,972	
IUBMB	3,583	2.4%	301,016	2.6%	3,983	400		2,500	-1,083	
IUBS	9,297	6.1%	293,686	2.6%	3,886	-5,411		2,500	-6,797	
IMU	6,002	4.0%	291,029	2.5%	3,851	-2,151		2,500	-3,502	
IUGS	9,297	6.1%	278,446	2.4%	3,685	-5,612		2,500	-6,797	
URSI	4,682	3.1%	231,463	2.0%	3,063	-1,619		2,500	-2,182	
IUPHAR	1,605	1.1%	225,121	2.0%	2,979	1,374		2,500	895	
IUPAB	3,583	2.4%	125,813	1.1%	1,665	-1,918		2,500	-1,083	
ISPRS	2,704	1.8%	122,874	1.1%	1,626	-1,078		2,500	-204	
IUPsyS	2,704	1.8%	112,425	1.0%	1,488	-1,216		2,500	-204	
IUPS	4,682	3.1%	107,177	0.9%	1,418	-3,264		2,500	-2,182	
IUFoST	2,043	1.3%	107,084	0.9%	1,417	-626		2,500	457	
INQUA	4,682	3.1%	102,363	0.9%	1,355	-3,327		2,500	-2,182	
IUSS	2,704	1.8%	94,494	0.8%	1,250	-1,454		2,500	-204	
IUTAM	2,704	1.8%	89,983	0.8%	1,191	-1,513		2,500	-204	
IUMS	2,043	1.3%	86,024	0.7%	1,138	-905		2,500	457	
IUTOX	1,605	1.1%	82,264	0.7%	1,089	-516		2,500	-895	
IUMRS	3,583	2.4%	32,297	0.3%	427	-3,156	193	1,600		< 80,000
IUPESM	1,605	1.1%	22,777	0.2%	301	-1,304		1,600	-5	
IUHPS	1,605	1.1%	14,531	0.1%	192	-1,413		1,600	-5	
IUAES	1,605	1.1%	3,404	0.0%	45	-1,560		1,600	-5	
IGU	4,682	3.1%	-	0.0%	-	-4,682		1,600	-3,082	
Total	151,814	100%	11,472,162	100%	151,814	-0		159,500	-3,097	