

Joint Standing Committee on Electoral Matters	
Submission No.	7
Date Received	15/8/03
Secretary	

15 August 2003

To
The Committee Secretary
Joint Standing Committee
on Electoral Matters
Dept. of House of Representatives
Parliament House
Canberra ACT 2600

Re: Inquiry into representation of the Territories in the House of Representatives

Dear Sir/ Madam,

Please, consider the following as a submission to the Committee enquiring into the representation of the Territories in the House of Representatives.

If required, I would be happy to provide evidence at a public hearing as well.

Yours faithfully,

Summary

In the following, I would like to recommend a simple procedure that would improve the fairness of representation for small electorates. The procedure can be easily implemented and would require no change to constitutional arrangements and only a minor change to the electoral law.

It simply involves changing the formula used for calculating the representation for different States and Territories in such a way that there is fairness in terms of the representation at the transition points when Territories gain or lose an additional Member.

Introduction

The ACT has seen its representation fluctuate between two and three Members over the past few elections, and with the population hovering around the transition point for gaining or not gaining an extra Member, there is uncertainty and confusion for the public and political parties about future levels of representation and the certainty and stability of political arrangements.

In addition, at the 1998 election when the ACT lost one of only three Federal representatives, there was a strong sense of unfairness because the ACT not only lost a representative but the remaining representatives also had to represent their Constituents in the nation's largest electorates (apart from the Northern Territory).

Similar considerations apply to the Northern Territory which gained a second seat for the first time in 2001 and is set to lose that seat again for the next Federal election. The Northern Territory will then have just one Member who will then have to represent the largest electorate in the nation.

The problems of changing representation and the resultant uncertainty are obvious for Constituents and Representatives alike and the manifest unfairness of being severely underrepresented compounds the problem for small Territories. That unfairness is heightened in view of the representation enjoyed by the States with the minimum representation of five Members per State, which has seen Tasmania enjoy representation in the smallest national electorates for many years.

That problem is even further compounded by the guaranteed representation by 12 Senators which gives Tasmania, in particular, a very high ratio of representatives per voter. It makes the unfair underrepresentation of the Territories stand out even more starkly.

The Problem

Both the ACT and the Northern Territory see their representation significantly fluctuate when their respective ratios of population to average Australian quota are close to 1.5 and 2.5, respectively.

What makes the problem significantly worse is the fact that the average electorate size increases significantly above the Australian average when the ratio falls below 1.5 (in the case of the Northern Territory) or 2.5 (in the case of the ACT). Hence, the ACT has very large electorates when representation falls to just two Members, and the Northern Territory has an even larger electorate when its ratio is just below 1.5.

Table 1: Examples of the unfairness created by population shifts near the transition from one representation level to the next.

P/Q	Members	P/M	Bias
1.499	1	1.499	+50%
1.501	2	0.75	-25%
2.499	2	1.25	+25%
2.501	3	0.833	-17%
30.499	30	1.017	+1.7%
30.501	31	0.984	-1.6%

Examples of sudden shift in representation when the P/Q ratio shifts from just under the .5 limit to just over. 'P' is the population represented, 'Q' the nationally determined quota for representation, 'M' the number of Members to be elected for an area, and the 'Bias' term the excess or shortage in electorate size.

electorate size **25% below** the Australian average. The imbalance when it crosses the .5 threshold is that the **50% over-size to 25% under-size** is unfair to the Territory.

At the cross-over at the 2.5 transition the imbalance is **+25% to -17%**, still a significant unfairness, whereas for a transition at 30.5 (as an example), it is down to an acceptable **+1.7% to -1.6%**.

A suggested solution

The first problem, that of variable representation could be solved by setting minimum representation levels for each of the Territories, as is in place for the States. It would solve the problem of sudden representation shifts, but would create a new imbalance in that the electorates could then be significantly smaller than the Australian average.

A less drastic change would be to simply modify the formula for representation. Currently, the number of Members for each Territory (as for each State) is calculated simply as the ratio of population (P) of a Territory divided by a quota that is worked out from the population of Australia as a whole and the number of Members to be elected. This is then rounded up or down to give a whole number. Hence,

number of Members = round (P / Q).

It is a simple formula, but it leads to the inequities shown in Table 1. This could be simply modified to:

To analyse the problem even further, there are actually two related problems. The first problem is that there can be significant fluctuations in representation whenever the P/Q (population : quota) ratio is close to 1.5 or 2.5. Even small population shifts can then change the representation from one to two or two to three Members and lead to large fluctuations in the electorate size.

The second problem is related to the unfairness that a Territory that falls just below 1.5 quotas has a significantly lower under-representation than the over-representation when a Territory is just above 1.5 quotas. The same applies for a Territory close to the 2.5 quota limit, although the discrepancy is not quite so pronounced then (see Table 1).

Hence, just below the 1.5 P/Q ratio, a Territory could have an electorate size by **50% above** the Australian average.

With a slight shift in population, it could gain a second seat and then have an

$$\text{number of Members} = \text{round} \left(\frac{P/Q + \sqrt{(P/Q)^2 + 1}}{2} \right)$$

The proposed new formula is designed to avoid the unfairness shown in Table 1. The formula could be applied in just the same way as the previous formula was used, and no other rule changes would need to be implemented. With the new formula, the unfairness is avoided as shown in Table 2.

Table 2: Examples of the unfairness avoided through use of the modified formula.

P/Q	Members	P/M	Bias
1.33	1	1.33	+33%
1.34	2	0.67	-33%
2.399	2	1.20	+20%
2.401	3	0.80	-20%
30.4918	30	1.0164	+1.64%
30.4919	31	0.9836	-1.64%

Calculation with the proposed modified formula, using as examples the points when a new seat is one by a State or Territory.

a bias.

Table 3: Application of the modified formula to the ACT and the Northern Territory.

Population	Formula	Members	
177,825	1.499999	1	transition
199,760	1.6494	2	current
320,086	2.499999	2	transition
322,871	2.5201	3	current

Calculation with the proposed modified formula, showing the calculated values with the actual current population figures in the ACT and the Northern Territory and the population figures when a seat would just be lost.

With the proposed new formula, the transition from one representation level to the next would occur at slighter lower transition points. At those transition points, there would then be no unfairness to an affected Territory, in that the bias of too large an electorate size just below the transition would be the same as the bias in the opposite direction just after the transition.

So, the transition from one to two Members would occur at a P/Q ratio of 1.33, with the bias in electorate size changing from +33% to -33%. The transition from 2 to 3 Members would occur at a P/Q ratio of 2.4, with the bias changing from +20% to -20%. The proposed formula works for all electorates sizes and would ensure that the transitions in all cases would occur without

Applying the formula to the actual numbers in the ACT and the Northern Territory (under current national population figures) would ensure that the Northern Territory were represented by two Members and the ACT by three Members (Table 3).

Hence, the Northern Territory could lose another 21,935 citizens (199,760 minus 177,825) before it would lose their second representative. The ACT would have a more tenuous hold on its third seat and could afford to lose only 2,785 citizens (322,871 minus 320,086) before losing the third seat.

Conclusion

The current representation of the Territories is inequitable. Just below the transition points for gaining an extra representative, their electorate sizes are much larger than the Australian average. A simple method is proposed here that would make representation of the Territories more equitable and avoid them being so much above the Australian average. It would have the immediate effect under current population numbers of increasing the representation of the Northern Territory and the ACT to two and three Members, respectively.

Dr Miko Kirschbaum

15 August 2003