PROPORTIONAL REPRESENTATION SOCIETY OF AUSTRALIA

MAKING MORE VOTES FULLY EFFECTIVE

Submission to the Joint Standing Committee on Electoral Matters following the double dissolution election of July 2016

Proportional Representation Society of Australia

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Overview

The Senate voting changes made in March 2016 constituted the most significant increase in voters' freedom to express their wishes since marking of all preferences was made compulsory in 1934 when the previous winner-take-all multiple-majority-preferential arrangements applied. While not ideal, they brought the requirements for the marking of a formal vote close to what would have applied had Dr Evatt listened to the Opposition's sensible suggestions when proportional representation was being introduced in 1948, except that the ballot paper is unnecessarily cluttered through the presence of party boxes as well as the names of individual candidates.

Most of the alarms raised during the parliamentary debate proved to be of no substance, particularly claims about greatly-increased informality (it remained under 4%) or vast armies

of voters being disfranchised because their votes would be partially or fully exhausted. Remarkably, those claiming to be troubled by such fanciful possibilities did not appear aware that vote wastage is nearly one-half in individual House of Representatives single-member contests and overall, and informal voting higher than for the Senate.

Except for exclusions and surplus distributions right at the end of the state scrutinies when there were few continuing candidates, exhausted votes were rarely over 10% of those eligible for transfer to next available candidates. Despite the absence of comprehensive measures to minimise exhausted votes, including having an official advertising focus on how electors can make the most of their single transferable vote, exhausted votes in the states were 5.2% nationally at the point where all elected candidates were known, and 7.7% when all legislated transfers had been completed.

All elected candidates owed their success to persuading enough voters to number them ahead of others. While the final elected candidate in states other than Queensland and Western Australia finished noticeably short of a quota, the eleventh elected candidate everywhere achieved a full quota. Voters overwhelmingly tended to heed the ballot-paper instructions about the minimum number of party boxes or candidates' names that should be marked.

More effort needs to be put into the advertising of how electors can vote most effectively once they have assessed candidates, parties and policies. It is now more important still to define the transfer value for distributing surpluses of elected candidates in a manner that treats all participating voters fairly instead of distorting their wishes through an indefensible unweighted calculation that simply divides the surplus by the number of ballot papers involved. Remarkably, in all states except South Australia, the transfer value of some parcels of votes increased after one or more candidates had their surpluses transferred: in Victoria, over 300,000 electors had more than one vote's worth of influence, and more than 75,000 electors did so in Queensland.

Narrow margins surrounding exclusion during the voided 2013 Western Australian Senate scrutinies and with which the final places in Tasmania and South Australia were determined in 2016 highlight the need to deal with the transfer value definition on sound principled lines that avoid the possibility of any transfer value being deemed to increase just after a candidate has been elected. As set out in a research paper prepared for the Western Australian Electoral Commission, the Weighted Inclusive Gregory method now applied in Legislative Council elections there treats all voters contributing to someone's election fairly, as does the more sophisticated Meek computer-based approach that reduces the quota and adjusts previous transfer values as votes exhaust. These possible approaches to reform are adaptable or applicable in an environment where electors have greater freedom about their numbering, the first straightforwardly so if there is also a wish to minimise exhausted votes.

Elections determined according to the single transferable vote purposely set out to *minimise wasted votes*. The quota is struck at the lowest number of votes where candidates are sure of election, and no more votes are asked of elected candidates than are actually needed. When candidates with the lowest progress total are excluded, votes are unavoidably exhausted if ballot papers cannot be transferred to a continuing candidate. If there is an odd number of vacancies to be filled, a majority of votes translates into a majority of seats.

While a ballot paper with a single first preference could help elect that candidate, it will become exhausted if that candidate is excluded. The balance between maximising formal votes and keeping exhausted votes low should be struck in a way that in practice allows voters' informed views to be overwhelmingly considered and taken seriously as the basis for determining election outcomes. Now that draconian requirements have been lifted, savings provisions should be aligned to accept as formal any vote with a single first preference while electors are encouraged to keep numbering until they find the remaining candidates uniformly unworthy of support in any circumstances.

Party boxes are not needed nor desirable as they clutter the ballot paper unnecessarily and detract from electoral authorities being able to advertise clearly and extensively about the principles of the single transferable vote and making the most of it once electors have made their assessment of what is on offer. There is also a risk of extra candidates being nominated to avoid intended supporting votes being declared informal or to give an appearance of expecting some success.

Extensive experience with quota-preferential methods in Ireland, Malta, Tasmania and the Australian Capital Territory shows that small first-preference starting points don't get expanded to full quotas where voters are in charge of preference orders and it is straightforward to cast a formal vote. In our two Hare-Clark systems, candidates or parties with half a quota of first preferences are by no means always successful in those elections or even necessarily among the last two or three to be excluded: levels of exhausted votes have generally been modest and there has been no recent agitation to make voting formally more onerous.

For the first time in many decades, the election of Senators from within a party column did not proceed in the order in which candidates were nominated. The implementation of Robson Rotation within party columns would help limit the prospect of damaging unseemly pre-selection brawls, energise all the endorsed candidates to make more community contact, and markedly raise the exclusion bar for continuing candidates towards the end of every scrutiny without in any way seeking to improve upon or rearrange voters' actual numbering.

Just as happened after the 1987 double dissolution, the Senate decided to ignore the results of the section 282 recount for six places with only the twelve elected candidates eligible, when dividing its members into short-term and long-term classes. As the section 282 approach discloses which six Senators have greatest voter support, full particulars should be available on the Australian Electoral Commission website as soon as the writs have been returned and summary information has been conveyed to the Clerk of the Senate and circulated to Senators-elect.

The 1977 constitutional amendment about the filling of Senate casual vacancies did not deal with replacement of Independent Senators or situations where parties merge, become defunct or otherwise cease to exist, nor does it set out a time frame for state or territory parliaments to determine a replacement when a casual vacancy arises. Countback, either by re-examining the quota of the vacating candidate or ultimate predecessor at a general election to establish whom those now without a representative most wanted as the replacement, or by re-examining all ballot papers to establish who is the first available previously-unsuccessful candidate to obtain a quota, provides a sound mechanism for the timely direct election of all required replacements.

The debacle surrounding the 2013 WA Senate recount and the fresh election that was subsequently ordered after the loss of 1,370 ballot papers exposed the failure to methodically update remedies that the Court of Disputed Returns can institute once the electoral system moved to proportional representation in 1948. With candidates being elected upon achieving a quota of votes rather than a plurality or artificial majority, there is a need for more flexible remedies to be available in pursuit of a just outcome if something goes seriously wrong during the polling or scrutiny.

For instance, it should be possible for only a small number of electors to be consulted again or electronic records of ballot papers to be relied upon where that is the most appropriate way to ensure that all eligible votes in a state or territory are considered or counted. Every effort should also be made to obtain as contemporaneous a nationwide expression of views at the initial polling as is possible. Candidates certain of initial success should be declared elected in all circumstances and the same criteria applied as in operation originally for filling the remaining vacancies, even if all electors are asked to return to the polls. Electoral justice can always be achieved in accordance with sound quota-preferential principles.

The interest and involvement of the Proportional Representation Society of Australia

The Proportional Representation Society of Australia and its constituent branches follow in the steps of those like Andrew Inglis Clark and Catherine Helen Spence, who, around the turn of the twentieth century, campaigned energetically for "effective voting", that is, the use of quota-preferential proportional representation in public elections to fill multiple vacancies simultaneously.

Not only does this method guarantee fairness to voters, candidates and parties by minimising wasted votes, but in its best forms that have been refined in recent decades in Australia, it can also ensure that real election-day clout remains with voters who cannot largely be taken for granted, rather than becoming further concentrated among a narrow political elite.

All of our branches and their predecessors have been involved in successful campaigns for the use of quota-preferential methods in particular circumstances. Some have a deliberately wider electoral reform agenda consistently placing major weight on voters' wishes being ascertained and respected.

In particular, the working Irish model of proportional representation was brought to the attention of senior politicians during the 1940s when the lop-sided Senate had become somewhat of a public laughing stock. Similarly, the defective drafting surrounding an attempt to institute a reducing quota in 1983 that could not guarantee the election of the correct number of Senators at any election, was public-spiritedly pointed out while the legislation was still being debated. The unprecedented nature of the initial incoherent approach to proposed formality provisions above and below the line in February 2016 was forcefully highlighted in our submission before the lengthy Senate debate started.

The major increases in numbers of Senate candidates in 2013, and the declaration elected of two candidates whose parties began with much less than 1% of first preferences, made it important to discuss frankly the extent to which citizens are able to participate effectively in Senate elections when they are forced to fill in nearly all of a large ballot paper or otherwise accept a group voting ticket about whose possible ramifications they are completely in the dark. After the missed opportunities in 1948 and 1983, the changes made in March 2016 in

practice required only a few preferences of voters for their ballot paper to be accepted as formal.

That successful fundamental reform should now be followed by further attention to the principles of the single transferable vote in order that voters can view the arrangements as the fairest way of translating their expressed views into parliamentary representation.

Demystifying the single transferable vote

The single transferable vote is entirely suited to the original purpose of fairly electing the Senate after its regular lop-sided composition under the preceding winner-take-all multiple-majority-preferential system brought its operations into major public disrepute. All that needs to happen is that unnecessary complications or improvisations in its operation be swept aside for more appropriate arrangements respectful of individual electors' wishes.

A thorough understanding of the workings of the single transferable vote is indispensable if the important reforms embarked upon in 2016 are to be comprehensively reinforced through coherent amendments to aspects of voting and counting that are still unsatisfactory.

First, as in most preferential elections, when the single transferable vote is in use it is important to realize that **each person has just one vote**. The marking of preferences on a ballot paper indicates **the order** in which the voter wishes (what remains unused of) that vote to **assist individual candidates.**

The fundamental aim when applying the single transferable vote is to have as many people as possible voting effectively, by directly helping to elect one or more candidates to fill available vacancies. In other words, wasted or ineffective votes are deliberately kept to a minimum.

No wastage of votes on candidates who don't need them

The (Droop) **quota** is the **lowest** number of votes at which candidates are **mathematically certain of being elected**: except possibly when there are very few formal votes (and essentially working to several decimal places makes greater sense), it is calculated by dividing the total formal votes by one more than the number of vacancies to be filled, and increasing the answer to the next highest whole number.

Once someone reaches the quota, there is no need for more votes to be piled up. In fact, to minimise wastage of votes, any **surplus** beyond the quota is **distributed to the continuing candidates** (those neither already elected nor excluded) in accordance with the wishes of those electors whose whole vote hasn't been used up in the process. Any transfer from the elected candidate will usually be at a fractional value.

No wastage of votes on candidates who can't get elected

If there isn't a surplus to distribute, the candidate with the **fewest** votes is **excluded**. All ballot papers credited to that candidate are **transferred to the next available continuing candidates**, as individually indicated on each of them. Because these ballot papers have not helped the excluded candidate, they move on at the same value as that at which they were received.

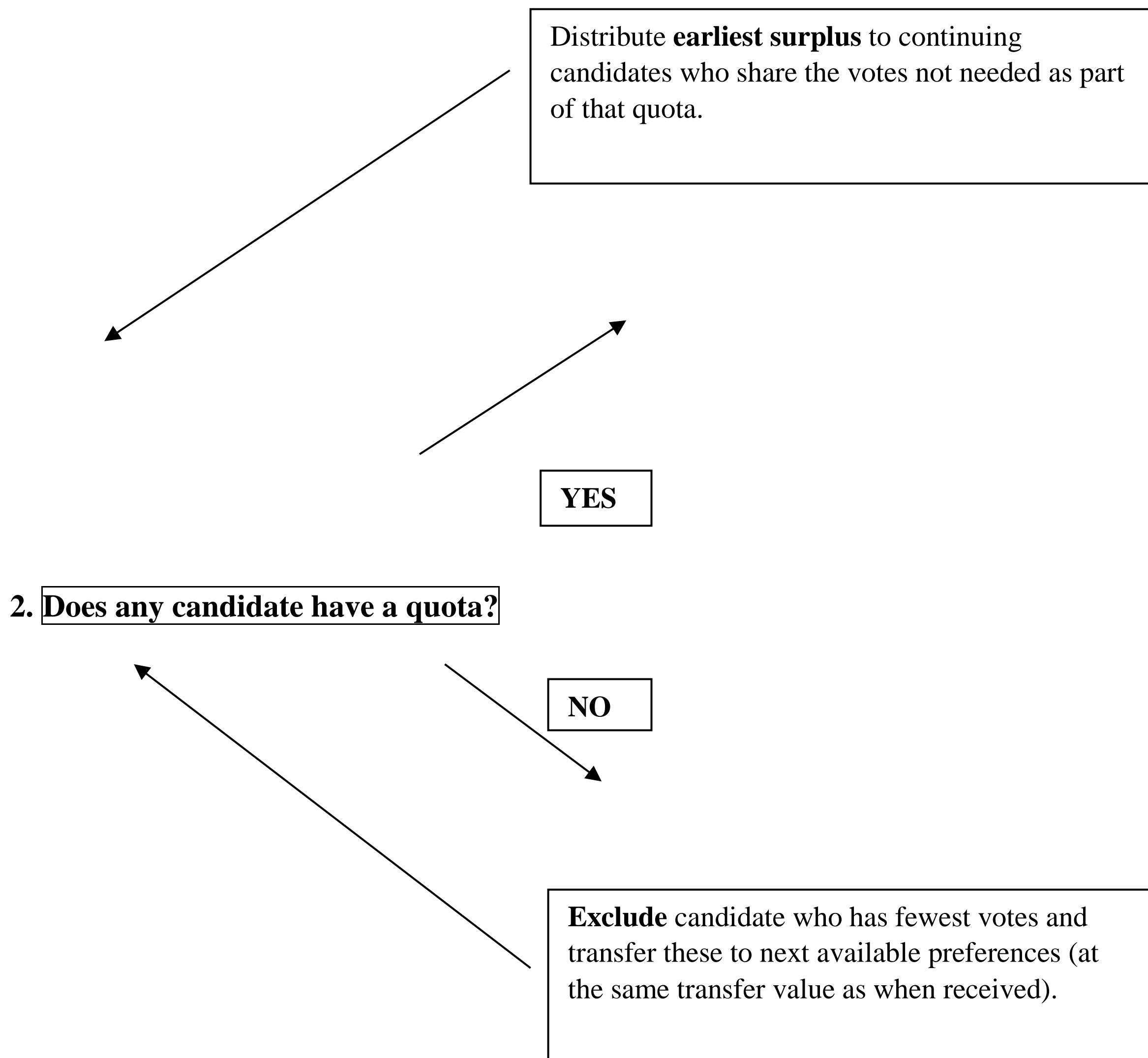
Finally, the exclusion of a candidate may mean that there are exactly as many continuing candidates as there are vacancies still to be filled. In that case, all these continuing candidates are declared elected without necessarily the need for further transfers.

Finding the next available (continuing) candidate on any particular ballot paper

When ballot papers are being transferred, the number next to the name of the elected or excluded candidate involved must be smaller than that alongside the name of any other candidate not yet excluded or elected. Provided that there are no duplications or omissions of numbers in between, the ballot paper will next be credited to whoever of the remainder has the lowest number alongside (this is the same as having the next highest preference).

Flow-chart for a quota-preferential election

1. Calculate the quota as your first step. Then keep asking the one key question below - <u>is anyone ready for election?</u>



3. If the number of continuing candidates falls to the number of unfilled vacancies, declare them all elected.

It is clear that a single first preference could be enough for a formal vote (as is accepted in Eire, Malta and the Australian Capital Territory), and that voters should always be encouraged to mark at least as many real preferences as they have thereafter. By marking later preferences, they cannot diminish the prospects of election of those whom they most strongly support.

There is room for some debate about whether more than one preference should be required rather than encouraged, but obviously a high threshold for acceptance of ballot papers as formal places an unwarranted imposition on voters. In a functioning democracy, if the counting rules are freed of avoidable anomalies, it can be left to informed electors to assess the risk of wasting their vote if it is not certain their first-preference or another early-preference candidate will either be elected or the last to be excluded.

Once the process of preferential voting is widely demystified, electors can assert the authority that they have in name, rather than often continue as a mere rubber stamp for decisions made or brokered within small cliques. The advertising campaigns of the Australian Electoral Commission before polling days should be revamped and deliberately focused upon providing simple and reliable information that helps electors make the most of their single transferable vote.

Genuine reform revolves around alerting electors about what marking preferences means

The Proportional Representation Society of Australia's view is that it is preferable to err on the side of having more formal votes rather than unnecessarily denying electors a vote at the outset if they fail to mark some arbitrary number of preferences.

A judgement must be made about the trade-off that exists between high or maximised levels of formal voting if requirements are not particularly onerous, and the prospect of large numbers of votes occasionally being exhausted towards the end of the scrutiny because on many ballot papers there are eventually no further preferences for continuing candidates: that may happen because a break in sequential numbering has occurred before the voter came to any of the remaining continuing candidates. The greater the initial imposition upon voters, the more of them that will have their vote declared informal at the outset, their views about the merits of candidates thus being completely disregarded.

The best way to face this challenge is to implement a comprehensive empowerment strategy through the Australian Electoral Commission being able to focus on two messages that help people make the most of their single transferable vote:

- electors are writing an instruction about the order in which candidates may be assisted by any remaining value of their single transferable vote; and
- the marking of further preferences cannot harm the prospects of the candidates supported most strongly by a voter.

If a ballot paper contributing to a surplus is non-transferable, usually it will be possible to place its remaining value entirely in the quota of the candidate who has just been elected: that is for instance achieved by defining the transfer value where just first preferences or other

ballot papers of full value are involved, as the surplus divided by the number of ballot papers that have a further preference for one of the continuing candidates (remaining at one if this quotient is higher, as the transfer value of course should never increase). However, if a candidate is being excluded, there is no alternative but for the remaining value of a non-transferable ballot paper to be exhausted.

The Australian Capital Territory example of ballot papers instructing voters to mark at least as many preferences as there are vacancies, but any vote with a single first preference being accepted as formal, has proved entirely workable since 1995. The initial Senate experience of 2016 has proved satisfactory even though official advertising in the campaign period did not focus on electors making the most of their single transferable vote by marking more preferences.

Some other energetically-worded instruction could appear on ballot papers exhorting electors to mark at least as many preferences as they can find candidates who are or could be worthy of their support. The savings provisions that currently apply accept as a formal vote a single first preference in a party box (which may mean as few as two actual preferences for candidates) or six consecutive preferences for candidates below the line.

Why is the formality requirement below the line more onerous? In our view, a single first preference below the line should be accepted as formal while much more emphasis should be placed on the marking of preferences being an instruction about the order in which candidates may be assisted by the remaining transfer value of a vote: in that environment, electors wanting to make the most of their vote should see that it is in their interest to keep numbering until they regard the remaining candidates as uniformly unworthy of their support in any circumstances.

Some notable aspects of the 2016 Senate elections

Despite alarms about increased informal voting being raised during the March 2016 debate on Senate voting changes, the national level was 3.94%, at the upper end of the range since group voting tickets and above-the-line voting were introduced in 1983, and 1% above the fairly low level at the change-of-government election of 2013.

It will be important to establish how high a proportion was obviously deliberate, as that may indicate that increasing public confidence in the political process is the real key to lowering informality rates. The Society's contention is that official advertising about marking of preferences being an instruction to electoral officials about the order in which candidates could benefit from any residual value, should attract more attention and encourage more electors to continue numbering well beyond the minimum asked for on ballot papers

The most outlandish claims during the March 2016 debate had possibly all the votes for independents and the smallest parties, twenty per cent and more, becoming exhausted. In fact, published figures had 7.7% of the vote in the six states becoming exhausted, essentially the same as the near-quota of votes that can be expected for candidates who are not elected. However, this included several instances where large numbers of exhausted votes occurred when the number of continuing candidates was the same as the number of unfilled vacancies, and hence all that was happening was an examination of the order in which they attained the quota or were otherwise declared elected. Were these instances that do not affect who actually gets elected ignored, as happens in Tasmania's Hare-Clark elections, exhausted votes

would have dropped by around one-third to 5,2% overall for the six states. Only in the cases of South Australia and Tasmania where two candidates contested the final position and the successful one finished with noticeably less than a quota, were the published and adjusted figures the same.

Table 1 below summarises aspects of the way in which exhausted votes occurred by looking at how many distributions involving excluded or elected candidates in each state contributed, and the extent to which exhaustion at individual exclusions or distributions of surpluses exceeded 5%, in around one-third of all those instances. Around one-fifth of all distributions with exhausted votes resulted in more than 10% of a candidate's votes or surplus being exhausted, mainly right at the end of the scrutiny when very few continuing candidates remained.

Table 1: Aspects of the exhaustion of Senate ballot papers

	formal votes	quota	published exhausted	adjusted exhausted	exhaustion contributors	5-10%	10-20%	>20%
NSW	4492197	345554	414656	326849	89	24	5	11
VIC	3500237	269250	300283	180896	63	10	7	6
QLD	2723166	209475	208964	115685	64	9	5	6
WA	1366182	105041	85766	49043	41	4	5	3
SA	1061165	81629	21556	21556	30	5	1	3
TAS	339159	26090	9531	9531	24	2	2	4

In New South Wales, when Green Lee Rhiannon was ninth elected, 21 candidates remained in contention for the last three vacancies: five of these were excluded in sequence starting with progress totals just under 100,000 votes before National John Williams and One Nation's Brian Burston both achieved the quota just after Liberal Democrat David Leyonhjelm became the only other continuing candidate: over 270,000 votes were exhausted during these five exclusions, at rates between 26% and 52%, the smallest being for the last, Christian Democrat Nella Hall, who was more than 60,000 votes behind Leyonhjelm when excluded: nearly 90,000 votes were exhausted when the only recipients possible were Williams, Burston and Leyonhjelm who were then all certain of election, and in the process the last's progress total rose from 0.66 to nearly 0.8 of a quota

The exclusion of Animal Justice candidate Bruce Poon with just under 100,000 votes resulted in Derryn Hinch being the tenth elected in Victoria and five candidates, One Nation, Sex Party, Family First, Green and Liberal, vying for the last two positions. Over 215,000 votes were exhausted as the first three of these candidates were excluded in sequence, at rates of 39%, 46% and 65%, the last when Green Janet Rice and Liberal Jane Hume were the only continuing candidates. Hume was over 27,000 votes ahead of Family First's Peter Bain when the latter was excluded and her progress total rose from 0.73 to 0.88 of a quota in subsequent counting while Rice reached the quota and had her surplus distributed.

The exclusion of Liberal Democrat Gabe Buckley with just over 100,000 votes put Liberal Barry O'Sullivan above the quota to be tenth elected in Queensland, leaving three candidates, Family First, One Nation and Labor vying for two places: 19,000 additional votes were

exhausted as this happened. Malcolm Roberts was more than 15,000 votes ahead of Family First's Rod McGarvie when the latter was the last excluded, adding nearly 80,000 votes to the exhausted tally and taking Labor's Chris Ketter beyond the quota. Roberts' progress total moved from 0.78 of a quota to just 45 votes shy in the course of this exclusion and the distribution of Ketter's surplus.

In Western Australia, the exclusion of Shooters, Fishers and Farmers Andrew Skerritt with nearly 50,000 votes saw Labor's Louise Pratt the tenth to be elected and left three continuing candidates, National, Green and One Nation, for the last two vacancies. National Kado Muir was more than 25,000 votes behind Green Rachel Siewert when the final exclusion had to be made, one that added nearly 37,000 exhausted votes to the published tally and put both One Nation's Rodney Culleton and Siewert beyond the quota.

When the HEMP candidate Ryan Parker was excluded with just over 20,000 votes in South Australia, six candidates, Liberal, One Nation, Labor, Family First, Green and Nick Xenophon Team, remained in contention for three places: 14% of those votes became exhausted. After the exclusion of Liberal Sean Edwards, One Nation's Steven Burgess was 7,500 votes behind Labor's Anne McEwen and became the last to be excluded, as a result of which over 20% of his votes (around 9,000) were added to the exhausted tally while the progress totals of both Skye Kakosche-Moore and Sarah Hanson-Young went past the quota. Family First's Bob Day increased his margin over McEwen from around 1,500 to just over 3,500 votes as this exclusion was carried out and the subsequent two surpluses were distributed, his progress total in the process rising from 0.67 to 0.89 of a quota.

In Tasmania, when Family First's Peter Madden, trailing Liberal Richard Colbeck by over 5,000 votes, was excluded with around 10,000 votes, six candidates remained in contention for four vacancies, two Liberal and two Labor, one each Green and One Nation. Then Colbeck's exclusion after a start of just over half a quota of first preferences saw party colleague David Bushby well beyond the quota while Labor's Lisa Singh, who started with nearly four-fifths of a quota of first preferences, went just beyond the quota: she was the first candidate in many decades to be elected other than in order of party nomination. About one-quarter of Bushby's surplus of nearly 11,000 was deemed exhausted and Labor's Catryna Bilyk was also put beyond the quota during its distribution, next seeing about one-third of her relatively small surplus exhausted. When all three surpluses had been distributed, Green Nick McKim with 0.81 of a quota was elected just 141 votes ahead of One Nation's Kate McCulloch.

The large levels of exhaustion in the distribution of Bushby's and Bilyk's surpluses draw attention to the unsatisfactory unweighted basis on which transfer values are defined, as the surplus divided by the number of ballot papers contributing to the elected candidate's progress total. A sounder definition that also sought to minimise exhausted votes by placing non-transferable papers within an elected candidate's quota as much as possible would have seen as many as 3,000 additional votes transferred to McKim or McCulloch.

Ballot papers that suddenly increased in value

In addition, with the ballot papers electing Jacqui Lambie having transfer value of about 0.06, the later higher transfer values for Carol Brown at 0.12, Jonathon Duniam at 0.14 and David Bushby at 0.09 resulted in nearly 500 voters who put Lambie first and one of the other three

next among continuing candidates getting more than one vote's worth of influence. Having seen 0.94 of their vote elect Senator Lambie and then contributed to the election of one of the other three, they found their ballot papers transferred at a value greater than 0.06 later in the scrutiny. A further 2284 voters who put Lambie first and her colleague Steve Martin second had Bushby as next available preference at count 307 when Martin was being excluded: those votes increased Bushby's progress total by 146 votes but may have been worth up to 210 votes to continuing candidates when Bushby's surplus was subsequently distributed at count 353. Such iniquities are even more troubling in the light of the narrow margin by which the last available place was determined.

There were instances of people having more than one vote's worth of influence in all states except South Australia because transfer values rose after certain ballot papers had helped elect someone. That phenomenon can only occur at the expense of certain other voters as the total formal votes and quota are determined at the start of the scrutiny.

The most egregious example occurred in Victoria where the last Labor candidate elected, Gavin Marshall, had a transfer value of around 0.001 for all ballot papers that formed part of his progress total: 126,025 papers worth 155 votes to Derryn Hinch suddenly became worth up to 4,266 votes when transferred as part of his surplus, while 196,650 other papers increasing Janet Rice's progress total by 243 votes increased in value to as many as 1,948 votes when transferred as part of her surplus. Such instances are not consistent with the principles surrounding the single transferable vote: in particular, when a candidate is elected, part of every contributing vote should be used in doing that and the remaining value become available to the continuing candidate with next available preference – under no circumstances should a ballot paper's transfer value increase after it has just helped to elect a candidate, and to avoid other potential distortions, the same proportion of each transferable ballot paper's current value should be used in helping to elect that candidate.

In Queensland, ballot papers for successful Green Larissa Waters all had a transfer value of around 0.00086 when her surplus was distributed. Of these, 10.731 with next available preference for Liberal Barry O'Sullivan and increasing his progress total by 9 votes next had an overall value of up to 90 votes when transferred as part of his surplus, and 66,187 ballot papers worth 56 votes to Labor's Chris Ketter had value of up to 985 votes when transferred as part of his surplus right at the end of the scrutiny.

In Western Australia, ballot papers for Chris Back, the last elected Liberal, had transfer value of around 0.00002 when his surplus was distributed. The 40,329 papers with Louise Pratt as next available preference did not add to her progress total then but could have been worth as many as 788 votes when dealt with as part of her surplus at transfer value nearly 0.018 at the end of that scrutiny.

Anomalies initially arose in New South Wales after ballot papers for Doug Cameron, the last Labor candidate to be elected, had transfer value of around 0.004: 1,073 of these with Green Lee Rhiannon next available preference increased her progress total by 4 votes but may have been worth as much as six votes to other candidates when her surplus was later distributed at a transfer value of around 0.006; 119 went to National John Williams without increasing his progress total but may have been worth up to four votes to others when his surplus was distributed at transfer value around 0.04 near the end of the scrutiny. 15,775 of Rhiannon's papers worth 91 votes to Williams may have added as much as 619 to others' progress totals

when his surplus was being distributed, while another 2,603 papers initially increasing One Nation's Brian Burston's progress total by 15 votes could have been worth up to 39 votes to others when transferred from him with value around 0.014.

In reflecting on these and other aspects of the latest round of voting and counting, it is important to draw appropriate lessons that provide voter-oriented answers to the following questions:

- should more votes be accepted as formal?
- should the quota remain unchanged throughout?
- should we aim to give electors a fully effective vote wherever possible?
- how should surpluses of elected candidates be distributed?
- how should the layout of ballot papers be improved?

Scant information available about section 282 recounts

At the instigation of Dr Alistair Fischer, who in 1983 pointed out that the order in which candidates are elected in a state following a double dissolution does not disclose which six elected Senators have greatest support, the Joint Select Committee on Electoral Reform recommended that at such elections the Australian Electoral Commission undertake a further count for six vacancies with ballot papers to start with whichever elected Senator has highest preference and be transferred only among those candidates. The Hawke Government subsequently legislated for such a count to be undertaken in each state after a double dissolution and for that information to be available to the Senate when considering its constitutional duty to divide its members into short-term and long-term classes.

Remarkably, particulars of those further counts are not available either on the website of the Australian Electoral Commission or that of the Department of the Senate. The Clerk of the Senate tabled a letter from the Australian Electoral Commissioner on the second day of sitting of the new parliament. Inquiries made of the Table Office have established that letter in each instance just listed the names of the six candidates "successful" in each state at that further count, without providing any numerical particulars relating to how the twelve eligible candidates were whittled down to six during the further scrutiny. That detailed information should be publicly released soon after it has been made available to the Clerk of the Senate and distributed to Senators-elect.

After the 1987 double dissolution, Labor and the Australian Democrats combined to translate their Senate majority into a declaration of long-term Senators for their mutual advantage, according to the order of election using the quota for twelve vacancies. Despite subsequent Senate resolutions in the interim that the section 282 recount provides a sounder basis for establishing which six Senators had greatest support, the agreement this year between the Coalition and Labor to again allocate long-term places to those who reached the 7.7% quota first during the original scrutiny to fill twelve vacancies highlights the likelihood of self-interest continuing to be the guiding principle unless the community is made much more aware of what is at stake, and understands the merits and defects of options that might be considered.

To understand the defective artificiality of the procedure adopted once more this year, consider a situation in which a state had parties with 40% (5 Senators), 30% (4 Senators) and

20% (at least two Senators) of first preferences and another party's candidate was also elected starting with under a quota of first preferences.

Under the criterion applied in 2016, there would be two long-term Senators from each of the parties with first-preference support varying between 20% and 40%, an outcome that underlines the unsuitability of a twelve-candidate quota for nominating which six candidates had greatest support in some sense. On the other hand, a restricted recount with a quota of 14.3% would most likely allocate three long-term places to the party with 40% support, two to that favoured by 30% of voters and one to that achieving 20%, an outcome far more in keeping with public expectations in such circumstances.

An even more incongruous outcome of two long-term Senators each would arise if the three largest parties obtained respectively 44% (possibly six Senators if there was a flow of preferences from smaller parties), 30% and 16% of first preferences. These examples can be generated at will by ensuring the party treated most generously has little more than an exact number of 7.7% quotas.

For instance, it's possible to secure a majority of Senators, as a party might with 52% of first preferences, and find five of them up for election next time, if other parties secured 26% and 16% of first preferences, say. Put another way, a combined 42% of voter support can in such circumstances be deemed worthy of four long-term places, double what an actual outright majority would be allocated.

The party with greatest support will be restricted to just two long-term places if two others get beyond 15.4%, unless someone in its ranks gets a below-the-line quota of first preferences. At the same time, a party achieving 15.4% will obtain two long-term Senators unless there are at least four such groupings or some quotas of first preferences are achieved by other parties below the line.

To see how distorted outcomes can get under the criterion applied in 2016, suppose that a party with 30% support manages to break that into 13% above the line and 9% and 8% respectively below the line for two of its candidates not at the top of the submitted order, perhaps by running concerted campaigns in specific parts of the state. This could lead to three long-term Senators, even in the face of 40% and 20% support respectively for parties not attracting strong below-the-line support, because its candidates with a quota would be the third, fourth and fifth declared elected.

An important point to emerge from the setting aside of this year's section 282 information is that Senators elected rather late at a double dissolution contest just because they start with less than 7.7% of first preferences might still have turned that support into success had only six vacancies been available: that would usually occur in circumstances where candidates from larger parties had only a fairly small fraction of a 14.3% quota after the early distributions of surpluses, and ended up with lowest progress total at some count or could not secure a large enough overall flow of preferences.

Were it necessary to rank all Senators for some purpose, the soundest procedure, free of potential anomalies arising from exclusion processes and where exact numbers of different quotas kick in, would be to start with a recount for eleven places with only the twelve elected

Senators eligible, to determine who had twelfth place, and to proceed sequentially with one fewer vacancy each time to be filled from among those not yet ranked.

Transfer value definition must be changed

The Droop quota used in Senate elections had become universally accepted as superior to the earlier Hare quota (dividing the number of formal votes by the number of vacancies) by early in the twentieth century. The official report on the first state-wide Hare-Clark election in Tasmania in 1909 http://www.tec.tas.gov.au/pages/ElectoralInformation/Election%20Reports/1909.pdf comprehensively set out the reasons why no more votes should be demanded of elected candidates than are strictly necessary to guarantee them success. In particular, requiring too many votes of elected candidates can make it possible for a majority of votes to translate into a minority of seats in some circumstances.

It is possible to reduce the quota on a principled basis as ballot papers become exhausted and the point at which electoral success is mathematically assured therefore falls. Exhausted votes themselves can be minimised by consistently placing as much as possible of the remaining value of non-transferable papers within the quota of any candidate they just helped to elect, as happens in the Australian Capital Territory: for instance, if a candidate is elected on first preferences alone, the surplus is divided by the number of ballot papers with a next available preference for a continuing candidate (rather than all votes for the elected candidate) - of course, if this quotient is greater than one, the transfer value remains at one and some votes are unavoidably exhausted. This approach adopts the admirable principle of giving electors full effective value for their vote whenever possible.

An attempt in 1983 to introduce reducing quotas at Senate elections when ballot papers become exhausted foundered due to confusion in the legislative drafting between non-transferable and exhausted ballot papers that resulted in there being no guarantee of the election of the correct number of Senators. The Hawke Government quickly abandoned that worthy concept but regrettably persisted with its officials' flawed technique for making an unweighted calculation of transfer values, dividing the surplus by the total number of ballot papers contributing to a candidate's election: this approach results in a distorted apportionment of surpluses whenever significant parcels of votes differ about the next available preference for a continuing candidate and, as found in this year's scrutinies, may result in certain transfer values increasing after a candidate reaches the quota.

Ballot papers for candidates who cannot be elected and are being excluded are always transferred at their prevailing unused value to others who remain as continuing candidates. Where they are not transferable, exhaustion of the remaining value of the ballot papers involved is unavoidable.

Whenever exhaustion of ballot papers' remaining value occurs, there are three approaches possible for making further sound adjustments to recognise that the number of votes at which election is now mathematically guaranteed has fallen during the course of the scrutiny. Two only look forward, accepting that vacancies still to be filled will require fewer votes than were asked of the candidates already elected, whereas the third goes back and increases transfer values from all earlier surpluses, without interfering with the order of exclusions undertaken so far during the scrutiny.

The simplest approach reduces the quota by taking account of just the number of exhausted votes, dividing the number of votes for elected and continuing candidates by one more than the total number of vacancies to be filled, and increasing this quotient to the next integer. An impeccable refinement uses just the number of votes for continuing candidates and the number of yet-unfilled vacancies to establish a new quota for the remaining vacancies that will be slightly smaller. Both of these methods accept that candidates already elected have more votes in their quotas than will be required of those still to achieve success.

An alternative approach, first set out by English mathematician Dr Brian Meek in the late 1960s, adopts the refinement definition but also retrospectively adjusts downwards the quotas of those already elected, which means increasing their surpluses and therefore the values at which the ballot papers involved are now credited to current continuing candidates. It also at all times allows transfers to candidates already elected who under more traditional counting rules are normally bypassed once they have reached the quota.

Further particulars of Meek's approach and helpful associated references are set out in Dr Narelle Miragliotta's research paper mentioned below. This sophisticated set of counting rules avoids some anomalies that can arise under simpler ones, and removes the possibility of electors achieving more of what they really want through their single transferable vote by strategically rearranging their preference order: requiring computerised calculations, it was initially endorsed by the Electoral Reform Society of Great Britain and Ireland and is in use as part of the single-transferable-vote methodology for electing local governments and district hospital boards in New Zealand.

It is important to understand the distortions arising from the current unweighted Gregory transfer definition that just divides the surplus by the total number of ballot papers contributing to a candidate's election:

- this causes every non-transferable paper to be treated as partially exhausted, instead of seeking to give those electors a fully effective vote;
- it may allow transfer values to increase, giving some electors more than one vote's worth of influence, at others' expense; and
- it arbitrarily forces ballot papers with largest transfer value to contribute a higher proportion of their remaining value to the candidate's election.

The non-transferability in 1974 of thousands of ballot papers with first preferences for Neville Bonner, third on the Coalition list, followed immediately by numbers for Labor candidates, had drawn attention to the desirability of all ballot papers helping elect a candidate to be eligible for further transfer, rather than just those received in the parcel taking the progress total beyond the quota. The previous approach, also copied from long-standing Irish practice, of making the surplus an accurate sample of ballot papers in the parcel taking the candidate beyond the quota according to what was the next available preference indicated, was also understood to leave open the possibility of unrepresentativeness of further preferences, and would not be exactly replicated in any recount.

Dividing the surplus by the total number of ballot papers contributing to a candidate's election always gives undue influence to those ballot papers within the quota with the lowest

previous transfer values, and may result in some electors effectively getting more than one vote, should a particular transfer value rise during the course of a scrutiny.

A detailed study of these matters was undertaken by political science academic Dr Narelle Miragliotta following controversy over some transfer value matters in Western Australia's Legislative Council elections of 2001. Her comprehensive report *Determining The Result: Transferring Surplus Votes in the Western Australian Legislative Council* is available at *http://www.elections.wa.gov.au/sites/default/files/content/documents/Determining_the_result.pdf*.

Former Western Australian Attorney-General Jim McGinty recognised that the prospect of a transfer value increasing during the course of a scrutiny was completely unacceptable and proceeded with amendments that introduced the Weighted Inclusive Gregory method for both Legislative Council and local government elections: this involves treating all voters equally by applying a surplus factor to each previous transfer value of ballot papers received by an elected candidate. Unnecessary anomalies are avoided because the same proportion of each ballot paper's previous value is used in electing the candidate in question and the remainder (which will of course differ for the various parcels of ballot papers with a common value at previous transfer) becomes available for transfer to the next available preference.

The New South Wales Joint Standing Committee on Electoral Matters subsequently came to the conclusion in 2005 that "consideration should be given to adopting the Weighted Inclusive Gregory method" that has been introduced in Western Australia. The Victorian Electoral Commission's assessment in 2009 after a thorough review of all available documentation was that the approach of multiplying previous transfer values by the same surplus factor after a candidate's election "may be a 'purer' form of proportional representation than that currently in use in Victoria" as it avoids the possibility of a ballot paper's transfer value rising during the course of the scrutiny.

The proven "surplus factor" concept needs to be modified for the Senate environment in which omissions and duplications of numbers can occur, leading to non-transferable papers. What first needs to be established is whether the current transfer values of ballot papers with a further preference for a continuing candidate are in aggregate at least equal to the surplus.

If they amount to less than the surplus, the current transfer values must remain unchanged and some votes will be unavoidably exhausted. Otherwise, dividing the surplus by the aggregate transferable vote weight defines a surplus factor by which all current transfer values of transferable ballot papers should be multiplied in order to treat all voters and candidates fairly.

That is the appropriate extension of the fairness criteria already pursued separately in the Australian Capital Territory and Western Australia. First, it puts as much value as possible of non-transferable ballot papers within the elected candidate's quota in an attempt to fully respect the wishes expressed by those voters. Second, it takes the same proportion of the current transfer values of the remaining ballot papers to contribute to that candidate's election and leaves the remainder available for transfer to continuing candidates.

Because the current transfer value wording within section 273 of the *Commonwealth Electoral Act 1918* is labyrinthine in pursuit of arriving at a definition that ignores the transfer values at which successful candidates received their ballot papers, a modification of

the wording used in Western Australia to reflect the possibility that ballot papers may be non-transferable is likely to prove the best route for change that avoids errors or troublesome unintended consequences.

The detailed example that follows illustrates the distortion created by the current Commonwealth transfer value definition, shows how exhausted votes can usually be avoided when a surplus is being distributed, and outlines how use of a uniform surplus factor in an environment of non-transferable ballot papers leads to a much different distribution of the surplus that is clearly fairer to electors and to all the candidates involved.

The closeness with which the final Tasmanian place was determined in 2016 makes presentation of outcomes under different possible transfer value definitions an illuminating exercise for which the Australian Electoral Commission should be asked to provide detailed particulars.

Removing distortions from the transfer value definition and minimising exhausted votes

The two best principles to adopt surrounding transfer values to minimise unnecessary exhausted votes and avoid treating some contributors to a person's election more favourably than others are:

- non-transferable ballot papers that help elect a candidate should have their remaining value placed within that person's quota if possible;
- all transferable ballot papers that help elect a candidate should have the same proportion of their incoming value used in electing the candidate and the remainder available for others.

For the sake of simplicity, assume that the quota is 1 million, and that a candidate is elected after receiving 800,000 first preferences and 2.2 million ballot papers transferred at value 0.2 (which adds 440,000 to the progress total).

Under the current definition, as the surplus is 240,000 votes, the transfer value would be 0.08 for all 3 million ballot papers contributing to the candidate's election. Each first preference would have 92% of its value used in the election of the candidate, compared with just 60% for the other papers. There is no justification for a distortion of that magnitude.

In more extreme circumstances, a transfer value can increase for some ballot papers under this unweighted definition, meaning in that case some voters have been given more than one vote's worth of influence in electing candidates, necessarily at the expense of other voters.

The Western Australian Legislative Council approach identifies a single surplus factor that means all ballot papers use the same proportion of their remaining value in contributing to the candidate's election. That factor, in an environment there currently of compulsory marking of all preferences, is the surplus divided by the progress total, namely 240,000/1,240.000 = 6/31. The remaining 25/31 (just under 81%) is the proportion of each ballot paper's value that is used in electing the candidate.

The first preferences would all be transferred at value 6/31 (just over 0.19) while the others would move on at one-fifth of that value, namely 6/155 (just under 0.04).

Under the 2016 changes to Senate formality requirements and interpretation of party box markings, many ballot papers are accepted as formal with far fewer than the previous minimum 90% of the individual squares marked or so deemed. It is not necessary to have exhausted votes just because there are non-transferable papers when a surplus is being distributed.

Suppose that, for the sake of illumination, in the circumstances of a candidate reaching the quota set out above, 400,000 first-preference ballot papers and 200,000 of the remaining ones cannot be transferred.

Under the current flawed transfer value definition, 600,000 ballot papers all with value 0.08 would be written off as exhausted, namely 48,000 votes.

That would not happen in the ACT's Hare-Clark system where only the parcel taking someone beyond the quota is eligible for further transfer. All the remaining value in the 200,000 non-transferable papers would be placed within the quota of the elected candidate's quota if possible (as it is here) and the surplus spread over the remaining 2 million transferable ballot papers, at value 0.12. The quota of 1 million would be comprised of 800,000 votes of full value (half of them transferable and half not), 200,000 non-transferable papers of value 0.2 (40,000 votes) and 2 million transferable papers each contributing 0.08 (160,000 votes).

To minimise vote wastage when papers can be non-transferable and all of them are eligible for transfer, the simplest logical extension of Western Australia's successful "surplus factor" approach involves first testing whether the full value of the non-transferable ballot papers can be placed within the quota of the elected candidate. That gives all voters with non-transferable ballot papers for that candidate a fully effective vote if possible, instead of automatically writing off part of it as exhausted. It also ensures that no transfer value can ever increase.

In this case, the transferable vote weight is 400,000 (first preferences) plus 2 million times 0.2, or 800,000 in total. The surplus factor becomes 240,000/800,000 = 0.3, meaning that 70% of the value of each transferable paper is used in electing the candidate, and the remaining 30% is available for others. In other words, the 400,000 transferable papers formerly of full value each move on at value 0.3, and the other 2 million transferable papers at value 0.06, each transferable parcel here contributing 120,000 votes to the distribution of the surplus.

The quota of 1 million votes would be comprised of 400,000 non-transferable papers of full value, 0.7 contributed by each of 400,000 transferable papers initially of full value (280,000 votes), 0.2 contributed by each of 200,000 non-transferable papers (40,000 votes), and 0.14 from each of the remaining 2 million transferable papers (another 280.000 votes).

Should the transferable vote weight be less than the surplus (for instance, if 700,000 ballot papers of full value and 1.6 million of the rest were not transferable), the previous transfer values continue to apply and some exhaustion of votes is unavoidable.

In this case, the transferable vote weight would be 100,000 (first preferences) plus 600,000 times 0.2, for an aggregate of 220,000. A total of 20,000 exhausted votes is therefore unavoidable if only these 700,000 ballot papers are transferable. That is an excellent outcome

in terms of respecting electors' wishes to the extent possible, in somewhat extreme circumstances.

The remaining ballot papers, of value 700,000 (as first preferences) plus 1.6 million times 0.2, make up 1,020,000 votes. That's the elected candidate's quota plus 20,000 votes that are unavoidably exhausted because of the extent of non-transferable papers when dealing with the surplus.

Were the current flawed unweighted transfer value definition applied, there would be 0.08 exhausted for each of 2.3 million papers, namely 184,000 votes. Only 56,000 votes out of a surplus of 240,000 would be transferred, instead of the maximum possible of 220,000 under a rigorously-principled definition.

This straightforward generalisation of Western Australia's successful surplus factor approach maximises an elector's chance of achieving a fully effective vote, all of which helps to elect Senators. It does not advantage or disadvantage any candidate a priori as it allows all electors to make the most that is possible of their vote in all circumstances, and in the case of transferable ballot papers helping a candidate get elected, requires the same proportional contribution to the quota by all of them.

Important role of the Australian Electoral Commission

Any significant change in voting procedures requires intensive educational effort on the part of the Australian Electoral Commission, preferably to help electors make the most of their vote rather than just telling them in broad terms that parties and groups can now be marked sequentially above the line or individual candidates' names below the line. Of course, as happened in 1984, advertising highlighting how six or more party boxes should be numbered for a formal vote as per the ballot-paper instructions may inadvertently result in House of Representatives ballot papers becoming informal when there are eight or more candidates in an electorate, if the current requirement of compulsory marking of all preferences there is maintained.

In the view of the Proportional Representation Society of Australia, it is imperative that during each election campaign the Australian Electoral Commission communicate extensively about voting as an instruction to electoral officials about the order in which continuing candidates can be helped by a particular vote. Such a simple message would help drive home to electors that their marking of further preferences cannot in any circumstances harm the prospects of those whom they support most strongly, and could contribute to many more making the most that is possible of their vote in situations they perhaps hadn't anticipated.

The advertising undertaken in 2016 did not take on this empowering dimension. In fact, it appeared to say that votes needed to have six party boxes or twelve individuals' names marked in order to be formal, drawing understandable criticism from candidates and others familiar with the savings provisions contained in the amending legislation: as a ballot paper with a single party box marked as first preference or six candidates' names marked sequentially is accepted as formal, there is no excuse for misleading electors when advertising can be based on messages that help electors work out what is in their best interests.

This missed opportunity and avoidable aggravation through poorly-worded emphasis on what appears on ballot papers led the Victoria-Tasmanian branch of the Proportional Representation Society of Australia to prepare and post generic advice https://www.youtube.com/watch?v=9BqgiUarZDo about how electors could make the most of their vote after they had assessed candidates, parties and policies.

The definition of the transfer value must now be changed to avoid the current distortions set out above both in the review of this year's scrutinies in the states and the example with the quota set at one million votes, and to cope much better with the continuing likelihood of larger numbers of non-transferable ballot papers towards the end of scrutinies. The latter can of course be kept down if the official advertising systematically conveys to electors how it is in their interest to mark as many preferences as party and candidate differences are meaningful to them, as it is not possible to know in advance all the particular choices to which any remaining value of their vote may be applied.

Party boxes not needed

The simplest and cleanest way forward to complete reform that has at last given Senate electors much greater freedom to express their views is to abandon party boxes altogether, at a stroke ending avoidable clutter on ballot papers and inconsistency between what is currently required above and below the line for a vote to be accepted as formal, and steering the Australian Electoral Office in the direction of concentrating on formulating useful messages so electors make as much as possible of their vote. This additional step would end situations where a first preference in a party box is accepted as formal no matter how many candidates it nominates but an attempt to indicate the same view below the line is declared informal if there are fewer than six numbers in sequence. It would also leave more room in all circumstances for party logos and candidates' particulars on the ballot paper, lessening the possibility that fonts have to be so small as to again result in large numbers of voters asking to use magnifying sheets to help them cast their vote.

Working STV systems without party boxes have been in place for:

- over one hundred years in Tasmania where the Hare-Clark system now requires at least as many preferences to be marked as there are vacancies to be filled;
- over ninety years in Ireland where optional preferential voting applies;
- over ninety years in Malta where optional preferential voting applies;
- over twenty years in the Australian Capital Territory where the ballot paper instructs voters to mark at least as many preferences as there are vacancies, and all papers with a single first preference are accepted as formal.

The *Commonwealth Electoral Bill 1902* proposed proportional representation for the Senate with completely optional preferential voting and the Opposition unsuccessfully proposed that ballot papers be formal if they had at least as many preferences as there were vacancies to be filled when the change to proportional representation was being debated in 1948. Tasmanian Attorney-General Andrew Inglis Clark had seen formality provisions based on half the number of vacancies to be filled enacted when proportional representation was originally used for the Hobart and Launceston electorates in the 1890s.

As the current above-the-line arrangement is almost de facto optional preferential with perhaps as few as two preferences deemed to have been marked, the simplest achievement of coherence is through optional preferential voting, as has worked effectively for lengthy periods in Ireland, Malta and the Australian Capital Territory. Informal voting in Ireland and Malta, in both of which voting is voluntary, has been around 1%. The ACT's ballot-paper exhortation to mark at least as many preferences as there are vacancies even though a single first preference is accepted maximises formal votes and helps electors make the most of their single transferable vote if it causes them to think about what the marking of preferences means.

A less desirable possibility is to require some small number of preferences to be marked before a vote is accepted as formal, with a savings provision to cover early omissions or duplications so that ballots are not arbitrarily declared invalid at the outset. The more that is demanded rather than encouraged in the name of increasing levels of effective voting, the higher will informality levels rise unnecessarily. There is also a possible avoidable risk of the ballot paper becoming unnecessarily congested as some parties or groups that have normally nominated two or three candidates suddenly decide to increase that number as a safeguard against potentially having votes intended for them invalidated for not including enough preferences.

The difference that Robson Rotation could make

The examples of the strong personal votes in Tasmania for Lisa Singh and Richard Colbeck, starting with respectively around 0.8 and 0.5 of a quota of first preferences although their name appeared well down their party's column order, illustrate how if larger parties concentrated on endorsing candidates of high calibre and public standing and let voters sort out who gets elected by having names in their party columns rotated and allowing the purely party vote to be spread out, they would make the most of their supporters' efforts.

For instance, currently if Labor or Liberal achieves 2.2 quotas at a normal half-Senate election, in practice its third candidate starts with 0.2 of a quota and will be excluded some counts before the end of the scrutiny as there will usually not be a noteworthy boosting flow of above-the-line preferences. With the application of Robson Rotation, in addition to the ballot paper being less cluttered as party boxes are done away with, there could instead be three candidates with 0.9, 0.7 and 0.6 of a quota respectively, all of them with prospects of picking up preferences from elsewhere: two would always be elected and the third might have a real show if there were significant favourable preference flows on policy grounds as the last continuing candidates of smaller groups or parties were excluded.

In both Tasmania and the ACT, where Robson Rotation has been in lengthy use as part of the Hare-Clark system, electors have much more interaction with candidates in the months before polling day than happens in most single-member electorates or at Senate elections. No-one has a guaranteed place because of the effects of Robson Rotation in spreading the vote intended just for a particular party, and hence those who are nominated and consider themselves strong possibilities for election tend to do a lot of doorknocking and continue to engage in other extensive community contact, in addition to making efforts to obtain media publicity. At the same time, it is unusual for parties unable to attract half a quota of first-preference support to remain in the scrutiny for the counts at the very end.

Since 1979, Tasmanian legislation introduced by an Opposition MHA and adopted unanimously before the Denison by-election brought on by candidate over-expenditure, has provided that all candidates nominated by a party or group have equal access to the best places within its column on the ballot paper. This combinatorially-ingenious Robson Rotation starts with the fundamental premise that voters rather than pre-selectors should determine the composition of a parliament and extends to all candidates the fairness of overall outcome that the single transferable vote guarantees.

The original schedule of rotations skilfully achieved a high degree of fairness to candidates by having exactly as many printing orders for names within a column as there are endorsed candidates therein. On the basis of rigorous research into the properties of Latin squares, Robson Rotation has been further refined in the ACT through the introduction of a second tier of rotations to eliminate, as much as is actually possible, beneficial down-the-column flows to any continuing candidate after someone is elected or excluded. Tasmania took the step in 2009 of doubling the previous number of rotations by also reversing every original order below a name at the top of the column, to guard against anyone being advantaged by an exclusion leaving just two continuing candidates from the one party.

The use of Robson Rotation even when single-member vacancies are being determined would eliminate the luck of the draw for the donkey vote from being the determining factor in the closest contests. For instance, instead of the fate of Herbert in 2016 and to some extent the nature of a government's position being in retrospect decided by the draw for places on one or more divisional ballot papers, it would be voters' deliberately-expressed views that were decisive as the benefits of indiscriminate down-the-listed-order votes would be shared evenly among those who were the strongest contestants for a particular vacancy.

Countback preferable for filling Senate vacancies

Through the use of countback to fill casual vacancies, since 1917 Tasmanian House of Assembly voters have not needed to return to the polling places when a sitting member has resigned or died. Instead, the quota of ballot papers for the outgoing candidate (or ultimate predecessor from the previous election) has been re-examined to establish who among consenting defeated candidates was most wanted as a replacement by those voters.

On election day, voters have been offered a good choice of candidates on a manageable ballot paper, including balanced diversity within teams endorsed by parties with prospects of securing some electoral success. Taking account of the possibility of mid-term vacancies arising and, more recently since 1973, stricter formality requirements, Labor and the Liberals have tended to offer as many candidates as there have been vacancies, but occasionally one or two more. Similar behaviour has been experienced in the Australian Capital Territory since its Hare-Clark system with countback began operating in 1995.

Replacements finalised quickly by countback in both jurisdictions serve voters' interests by increasing numbers of candidates nominating and sending a clear message about community expectations for the entire parliament ahead.

The 1975 national constitutional crisis could not have happened without the replacement in New South Wales and Queensland that year of resigning or deceased Labor Senators with respectively an independent and a self-declared "Labor man", rather than ALP members

endorsed by the relevant state branches as would have happened under the convention that had previously been respected since the introduction of proportional representation.

In 1977, the Fraser Government successfully sponsored a new constitutional requirement that the replacement for a Senator "publicly recognised by a particular political party as being an endorsed candidate" at the time of election, would be a member of that party in normal circumstances. Rogue appointments would not be possible because the party in question could and would immediately move to expel anyone seeking to take up a particular vacancy without proper endorsement.

However the amendment that also spared Senator Austin Lewis from having to face the Victorian voters at the next House or Senate election does not deal with the replacement of Independent Senators or Senators from groups that are not political parties, or situations where a party goes out of existence, or perhaps amalgamates with another or otherwise undergoes a name change.

As often happens with electoral proposals that are not comprehensive, the amendment did not provide conclusive guidance when the need for a replacement first occurred after its endorsement at referendum. Steele Hall, re-elected as a Liberal Movement Senator for South Australia in 1975, resigned in November 1977 in order to stand for the Liberal Party in the House of Representatives electorate of Hawker. With the Liberal Movement no longer in existence, and its second candidate from 1975, Michael Wilson, recently elected to the South Australian Parliament as Member for Torrens, in December Premier Don Dunstan proposed its third candidate, Janine Haines, by then an Australian Democrat, to be the replacement until June 1981.

Subsequent appointments have shown that state governments are able to delay agreeing to a particular nominated replacement for some time after a casual vacancy has occurred, usually to signal dissatisfaction with an endorsed party member whom they are unable to block, but sometimes for other reasons. In some circumstances, such a delay could determine whether contentious legislation passed or not, or was referred to a committee.

The Proportional Representation Society of Australia believes that countback, along the lines of the Hare-Clark system rather than the complete recount set out in Western Australian legislation with special provisions to ensure that all continuing incumbents are unaffected, should take the place of the 1977 amendments. It would have universal applicability, tend to result in additional polling-day choice for electors, and most likely maintain party representation between elections: the only instance in Tasmania or the Australian Capital Territory of a party not keeping its representation at countback was when Bob Brown rather than an Australian Democrat replaced Norm Sanders in Denison in 1983.

Examining the quota of the vacating candidate or ultimate predecessor from a general election would emphasise that each election produces an outcome over the full term at stake. There is far less likelihood of a change in the balance of the Senate through this approach than through a full recount where changes in the order of exclusion can trigger altered preference flows and lead to different or even unexpected outcomes.

The Western Australian approach is based on the principle of giving all those without representation after a casual vacancy occurs another opportunity to contribute to someone's election, while maintaining the positions of those already elected. That is achieved by re-

examining all formal ballot papers and filling the vacancy according to whoever available outside of those originally elected first achieves the quota or is otherwise elected. Some electors who have already helped elect one or more candidates may end up with more than one vote's worth of influence under this approach, if their vote also contributes to the replacement's election, and the party balance is slightly more prone to change after the filling of one or more casual vacancies.

The universal adoption of countback would mean that every Senator had been before the people at one of the previous two elections and reinforce the importance of voters relative to party machines, as those who had lost their representative would determine the replacement through the re-examination of the quota for the vacating Senator (or ultimate predecessor successful at the previous general election or the one before).

Replacements under either countback approach would occur within a predetermined time period through indication by a specified date of continuing eligibility and consents to serve by unsuccessful candidates at the election, and subsequent administrative action to then quickly re-examine the relevant quota of votes or all formal ballot papers, in practice by running a computer program.

In the middle of 1997, just under 20% of Senators were in their places without having been elected by the people of their state. After the changeover in July 2011, over one-quarter of Senators had originally entered the chamber through appointment, and at March 2014 that proportion had climbed to over one-third following eleven new appointments in the intervening period.

Parties hoping for or anticipating some success would be inclined to endorse more candidates than currently to ensure that one or more was available to fill any casual vacancy that subsequently arose. If there were doubts on this score, incumbents would be less likely to resign whereas under the current arrangements, some Senators have departed within weeks of being re-elected. Bob Carr, who was himself appointed to fill a casual vacancy in 2012 before resigning shortly after the 2013 general election, needed to resign a second time to undo his election for a further six years after being placed at the top of Labor's New South Wales grouping.

More flexible remedies needed if aspects of an election's conduct are found to be unsatisfactory

The principle of recognition of those who were originally elected at a quota-preferential election can be turned into a workable operational approach in appropriate circumstances if more flexible options are available to be explored in the Court of Disputed Returns as potential remedies where some flaw in electoral procedure is discovered or proved and fresh voting on a small or large scale is required, or one or more candidates are disqualified for having engaged in illegal practices.

The powers of the Court of Disputed Returns are set out in Section 360 of the *Commonwealth Electoral Act 1918* that was significantly amended in both 1922 and 1983, and cosmetically in 2010. Nearby sections detail how some questions potentially arising from contraventions of legislative provisions or standard operating procedures are to be determined and what matters are resolved conclusively one way or another on receipt of particular evidence.

The powers are set out in black-and-white terms perhaps suitable only for adjudicating upon the filling of winner-take-all vacancies rather than taking proper account of the importance of achieving the quota in the simultaneous election of several Senators using proportional representation. It appears that the significance of this fundamental change was not understood in 1948 because greater flexibility to achieve just outcomes was not then written into the powers of the Court of Disputed Returns.

After the loss of 120 ballot papers previously set aside as informal and 1,250 accepted as above-the-line votes en route to the central recount centre in Western Australia, the Australian Electoral Commission petitioned the Court of Disputed Returns for the 2013 Senate election there to be voided: several candidates and electors also filed petitions within the statutory period available. The 1983 amendment had opened up the possibility of the AEC petitioning for specific types of declarations and required rulings within three months in those instances.

His Honour Justice Hayne summarised the issues to be settled as follows:

> Was the result of the election likely to be affected by the loss of the ballot papers? Can this Court now decide who should have been elected? Can it do so by looking at records of earlier counts of the lost ballot papers? And need it now examine ballot papers whose formality is disputed? Or must it instead declare the election absolutely void?

Having observed that the procedures for a recount are set out in prescriptive detail in the legislation, Justice Hayne ruled that there was no opportunity to draw evidence from earlier scrutiny activity in an attempt to fill in the information gaps created by the ballot papers lost during the recount. His Honour found that the electors who had committed the lost ballot papers into ballot boxes were prevented from voting and that their number was far greater than the smallest gap in progress totals determining an exclusion during the incomplete recount: consequently an illegal practice as defined in the *Commonwealth Electoral Act 1918* had occurred that could have prevented two different candidates from rightly being declared elected.

The candidates declared elected to the fifth and sixth vacancies were therefore not duly elected and it was in this instance not possible to say who was duly elected. As a result, the entire election was voided and electors were required to vote again on (or before) 5 April 2014 in a process beginning afresh with updated electoral rolls for Western Australia in place and another call made for nominations.

It is important that such a poor Senate outcome for electors and candidates who definitely achieved a quota not occur again, and instead that there be much greater flexibility to fairly achieve as contemporaneous nationwide electoral justice as is possible should there be a similar mishap in future or some other failure to adhere to the legislation of equally serious consequence. Unless appropriate changes are made to the provisions concerning the Court of Disputed Returns and the remedies available when material errors in electoral procedure have occurred, where there are very narrow margins at some points of exclusion in future, those particularly upset at the most likely outcome will be aware that the disappearance, defacement or destruction of only a small batch of votes could lead to an order for a fresh election.

In the Western Australian example, as it was not possible under the current legislation to make inferences about ballot papers that were not available for fresh scrutiny, the simplest remedy (had it been available) respecting the wishes of as many as possible who voted in September would have been to allow all those who voted at the two polling places in question to do so again in order that a complete set of ballot papers be assembled for the recount scrutiny. This would have involved identifying and removing all the other ballot papers lodged at those polling places and substituting for them the small number of papers from the limited fresh round of voting.

In general terms, it is important to ensure that where it could make a difference to the overall outcome, all legitimate votes and all eligible candidates are included with minimal possible imposition upon the voters affected by errors. For instance, at the Tasmanian general election of March 2014, in Denison 2,338 attempted postal ballot papers were damaged by an out-of-control automated letter-opening facility that wasn't operated properly: 163 of these ballot papers could not be repaired and therefore had to be treated as informal.

Fortunately in this case there would not have been any impact on the final outcome and the election declaration itself wasn't exposed to challenge, whereas it might have been if a margin for exclusion or election at the end of the scrutiny was fairly narrow. Had the outcome been rather close overall or at an important late count, it should have been possible to identify the electors whose postal ballot papers were irrevocably destroyed and afford them another opportunity to lodge their vote that way: having such a broad corrective power in the provisions governing the conduct of the election would be better than always requiring potentially significant mishaps to be resolved only through much later findings and orders of the Court of Disputed Returns.

A clear path must be available to quickly implement appropriate simple remedies in other circumstances, including where it is discovered that proper procedures have not been followed during some part of mobile polling. Where this cannot be achieved in some straightforward manner that involves only a limited number of known or eligible electors, it is important to minimise the risk of unjust non-election of some candidates through changes of elector attitude over time.

For instance, in the Western Australian case there was no doubt that three Liberals and one Labor Senator had originally been elected with quotas, and their positions should not have been in any jeopardy subsequently: respect for the principle of election upon achieving the quota could have sensibly guided any fresh balloting in the direction of achieving nationwide electoral justice as contemporaneously as possible. In this case, it was clear that four Senators would have easily reached the quota, just as they did at the initial scrutiny and recheck. Comprehensive remedies available to the Court of Disputed Returns would therefore have resulted in them being declared duly elected and the emphasis shifted to how the remaining two vacancies should be determined.

The original criterion for election was obtaining just over one-seventh of the formal votes. There are no legitimate grounds for suddenly inventing or imposing any other standard. It is a question of simultaneously ensuring that all eligible votes be available for scrutiny and that all successful candidates have achieved the quota or are otherwise elected when a proper full scrutiny is undertaken.

Were it necessary to require all electors to return to the polls for some reason, a possible fair remedy in this instance would be to declare four Senators already elected and to use the Western Australian Legislative Council approach to filling casual vacancies to guide the filling of the two remaining ones. While there would be an entire set of new ballot papers to deal with and just under seven full quotas of votes after informal ballot papers were set aside, the two remaining places would in this case be taken by the first two candidates outside the first three Liberals and the leading Labor candidate to achieve a quota or otherwise be declared elected.

The possibility of gaming would for instance be nullified by orders requiring the ballot paper to remain the same as previously, thereby preventing parties or groups with candidates already elected from putting others in the most advantageous places in their columns in ferocious pursuit of the available vacancies. There would in such circumstances be no incentive for those parties to publicly suggest that their supporters switch to some other party, group or independent in order to bolster the chances of a like-minded or potentially-friendly Senator also being elected.

An ordinary quota-preferential scrutiny with such an unobjectionable set of constraints would produce the fairest outcome in all situations where certain candidates could be appropriately declared elected by the Court of Disputed Returns and detailed orders brought down about how any remaining vacancies were to be filled. It is for instance difficult to imagine circumstances in which there would be a fresh call for nominations as even the disqualification of any candidate would still leave intact the remainder of the preference order that each individual has indicated.

By allowing the replacement of a limited number of ballot papers, the bypassing of names of disqualified candidates and the declaration that particular candidates achieved the quota and should not have their positions put into question in subsequent fresh voting and counting, it would be possible to achieve electoral justice that comes as close as is possible to being contemporaneous with voting that occurred elsewhere around the nation. The flexibility to order any other limited corrective action that facilitated a fair assessment of voters' wishes as much as possible in line with those expressed in initial voting should be inserted into the powers of the Court of Disputed Returns, along with appropriate broad guidance about how it might be arrived at in accordance with the principles that apply when Western Australian Legislative Council casual vacancies are filled.