

Appendix D

Assessment of Rejected Ballot Paper Images viewed by Returning Officers

1.0 Analysis of statistical information on types of Scottish parliamentary ballot paper rejection

1.1 Introduction

The categories used by the Returning Officers to record reasons for rejection are as follows:¹

1. **Voter can be identified:** Ballot sheets are invalidated if voters write any information by which they might be identified (e.g. a name, initials or elector number).
2. **No official mark:** Every ballot paper must have an official mark for security. For electronic counting, it must also bear a unique identifying mark (UIM). If these are not found the vote is rejected.²
3. **Over-voting:** The voter votes for more than one candidate or political party.
4. **Void for uncertainty:** The ballot paper is either marked in such a way that the voter's intention is not clear or it is unmarked.

The numbers of rejected ballot papers in these categories for each of the 73 constituencies, eight regions (parliamentary election) and 32 local authorities (local government elections) have been drawn from data provided by the Electoral Commission.³ The main categories of concern are the third and fourth as relatively few ballot papers were rejected for the first and second categories as shown in Table 1.1.

The category in which by the far the majority of rejected ballot papers were found was 'void for uncertainty'. This category includes ballot papers which voters have marked in such a way such that their vote cannot be ascertained and ballot papers which voters have left unmarked. It is important to try to disaggregate this category into two separate categories – 'uncertain' and 'unmarked' – at the very least because leaving a ballot paper unmarked may have involved a conscious decision to abstain.

¹ Electoral Commission. *Dealing with doubtful ballot papers*. 2007. Sec 2.7.

² Scottish Parliament (Elections etc) Order 2007. Rule 58; and Scottish Local Government Election Order 2007. Rule 43.

³ Electoral Commission. Email confirmation of statistics for 2007 Scottish parliamentary and local government elections. 28 September 2007. Percentages are calculated on all ballot papers cast which were rejected at the count.

Table 1.1:
Ballot paper rejection categories and statistics for Scotland 2007

Rejection category	Rejection of Scottish parliamentary constituency ballot papers	Rejection of Scottish parliamentary regional ballot papers	Rejection of local government ballot papers [^]
Voter can be identified	111 (0.1%)	109 (0.2%)	110 (0.29%)
No official mark	20 (0.02%)	18 (0.03%)	68 (0.18%)
Over-voting	2,577 (3.0%)	18,225 (30.0%)	15,315 (39.9%)
Void for uncertainty *includes ballot papers <i>unmarked & uncertain</i>	82,939 (96.8%)	42,085 (69.6%)	22,858 (59.6%)
Total	85,644 (100%)	60,455 (100%)	38,351 (100%)
[^] Figures repeated in Table 3.1 below			

1.2 Overall statistics for combined Scottish parliamentary ballot sheets

The Review team ascertained that the DRS electronic counting system could differentiate between the unmarked and uncertain rejected ballot papers which had been classified together in the 'void for uncertainty' category. An expanded statistical breakdown was requested from DRS for each constituency (Scottish parliamentary election) and each local authority (local government election) with this category disaggregated into 'unmarked' and 'uncertain'. Furthermore, for the Scottish parliamentary election, DRS was asked to produce a table of these statistics cross-classified by regional ballot paper and constituency ballot paper which shows the numbers of ballot papers in each combination of now five rejection categories and a 'valid' category where the ballot papers was accepted.

Table 1.2 shows the cross-classification of numbers (and percentages) of ballot paper sheets for the Scottish parliamentary election for the 68 constituencies where this breakdown could be provided by DRS.

Thus the cell (regional ballot paper = valid, constituency ballot paper = unmarked) has 62,720 entries representing 49.9% of all the (combined) parliamentary ballot papers where one or both halves were rejected. Similarly 54.7% of the parliamentary ballot sheets had a regional vote which was valid but had the constituency vote rejected for whichever reason.

Note that these two tables are based on 68 of the 73 constituencies (for reason given below) so that the figures given do not represent the final picture for Scotland as a whole. However as they are based on over 93% of the ballot papers cast the percentages in Table 1.2 should be very close to the final figures if these could be calculated.

Table 1.2:
Numbers (and percentage) of ballot papers for each combination of regional and constituency Scottish parliamentary ballot paper categories*

		Constituency ballot papers					
		Category					
		Valid	Rejected Void for uncertainty - <i>unmarked</i>	Rejected Void for uncertainty - <i>uncertain</i>	Rejected Over- voted	Rejected No official mark or voter identified	Total
Regional ballot papers	Valid	(1,829,180) [^]	62,720 (49.9%)	5,274 (4.2%)	748 (0.6%)	0 (n/a)	1,897,922 (54.7%)
	Rejected Void for uncertainty - <i>unmarked</i>	32,000 (25.5%)	2,324 (1.9%)	113 (0.1%)	888 (0.7%)	2 (n/a)	35,327 (28.2%)
	Rejected Void for uncertainty - <i>uncertain</i>	3,028 (2.4%)	269 (0.2%)	1,065 (0.9%)	71 (0.1%)	0 (n/a)	4,433 (3.6%)
	Rejected Over-voted	9,291 (7.4%)	6,519 (5.2%)	572 (0.5%)	676 (0.5%)	0 (n/a)	17,058 (13.6%)
	Rejected No official mark or Voter identified	0 (n/a)	1 (n/a)	0 (n/a)	0 (n/a)	115 (0.1%)	116
	Total	1,873,499 (35.3%)	71,833 (57.2%)	7,024 (5.7%)	2,383 (1.9%)	117 (0.1%)	1,954,856 (100.0%)

*Table based on 68 of the 73 constituencies. Manually entered ballot papers are excluded.

[^]The percentage of Scottish parliamentary ballot sheets with a valid regional ballot paper and a valid constituency ballot paper is estimated at 93.6% (1,829,180/1,954,856)

Table 1.3:
Percentage estimates in each Scottish parliamentary ballot paper category

Ballot paper category	Regional ballot papers	Constituency ballot papers
Valid	97.1	95.8
Rejected Void for uncertainty -- <i>unmarked</i>	1.81	3.67
Rejected Void for uncertainty -- <i>uncertain</i>	0.23	0.36
Rejected Over-voted	0.87	0.12
Rejected No official mark or Voter identified	0.01	0.01
Total	100	100

The statistical breakdown in Table 1.3 was produced by aggregating over each constituency except the following five where the relevant files from the hard drives supplied by the Sheriff Court's Clerk could not be restored. The five are Aberdeen North and Aberdeen Central (Aberdeen City); Roxburgh & Berwickshire Tweeddale and Ettrick & Lauderdale (Scottish Borders); and Stirling (Stirling). Note also that the five constituencies excluded in this analysis have, on average, low rejection rates.

In Table 1.3, the total rejection rate for the constituency ballot paper is 4.20% compared to the final figure of 4.07% for all 73 constituencies indicating that the estimates given should be close to the overall ones. Similarly the total rejection rate of 2.85% for the regional ballot paper based on 68 constituencies is very close to the overall rate of 2.88%.

1.3 Statistics by region

Table 1.4:
Rejection statistics by region (percentage): parliamentary ballot papers separated

Region	Regional ballot paper				Constituency ballot paper			
	Rejected Void for uncertainty - <i>unmarked</i>	Rejected Void for uncertainty - <i>uncertain</i>	Rejected Over- voted	Valid	Rejected Void for uncertainty - <i>unmarked</i>	Rejected Void for uncertainty - <i>uncertain</i>	Rejected Over- voted	Valid
Glasgow	2.5	0.4	1.3	95.8	7.0	0.7	0.2	92.1
Lothian	1.9	0.3	0.9	96.9	4.5	0.5	0.1	94.8
Central	1.8	0.2	1.0	97.0	3.3	0.3	0.1	96.3
West	1.8	0.2	0.9	97.1	3.0	0.3	0.1	96.6
South*	1.8	0.2	0.8	97.2	3.0	0.3	0.1	96.6
Highland & Islands	1.9	0.2	0.8	97.1	3.0	0.2	0.2	96.6
Mid Scot & Fife*	1.5	0.2	0.8	97.6	2.8	0.2	0.1	96.8
North East*	1.2	0.2	0.6	98.0	2.9	0.3	0.1	96.7

(*) Figures based on incomplete data

Table 1.5:
Rejection statistics by region (percentage): parliamentary ballot papers combined

Region	All ballot papers counted: One or other side rejected	All rejected combined ballot papers: One side unmarked, other side valid	All rejected combined ballot papers: Region valid, constituency unmarked	All rejected combined ballot papers: Region unmarked; constituency valid
Glasgow	11.0	77.4	56.3	21.1
Lothian	7.4	75.4	52.8	22.6
Central	6.1	74.6	47.0	27.6
West	5.7	73.6	44.9	28.7
South*	5.6	76.5	46.6	29.9
Highland & Islands	5.7	75.9	45.7	30.2
Mid Scot & Fife*	5.1	73.7	47.9	25.8
North East*	4.9	74.3	52.4	21.9

(*) Figures based on incomplete data

2.0 Analysis of electronic images of rejected Scottish parliamentary ballot papers

2.1 Some important caveats

The Review's decision to look only at the electronic images of ballot papers sent to Returning Officer queues for a decision offered certain parameters for this investigation.⁴ Among these:

- Auto-rejected ballot papers were not investigated. To assess these, our investigation would have required access to the physical ballot papers to see if the electronic counting system dealt with these accurately. The process would have required identifying auto-rejected ballot papers randomly scattered throughout the polling station/postal batches.
- The electronic images of ballot papers sent to the 'standard queues' for adjudication were not investigated (over 850,000 ballot paper sheets for the Scottish parliamentary and local government elections were examined in these queues).⁵ In many cases, these images were those that the DRS system could not classify unambiguously while the decision of the adjudicator was straightforward. Standard queue operators could confirm a valid vote but were not authorised to reject ballot papers. Any contentious or potentially rejected ballot papers were passed to a second queue, which was viewed on a screen by Returning Officers or Deputies who could confirm or reject each ballot paper. Not inspecting the electronic images of ballot papers sent to the standard queue meant that the Review team would not assess the consistency of the adjudicator's decisions to accept ballot papers both within and between counting centres.
- A key issue in the investigation was whether the combination of ballot paper marking requirements – crosses ('x') for the Scottish parliamentary ballot papers and numbers ('1, 2, 3, ...') for the local government ballot papers – caused confusion, leading to higher rejection rates. Under ideal circumstances, the Review team would have examined both the parliamentary ballot papers and local government ballot paper cast by an individual voter. In doing so, we could have identified trends such as whether voters used a cross on both ballot papers; used a number sequence spread over both papers (e.g. '1, 2' on the parliamentary papers, then '3, 4' on the local government paper); numbers on the parliamentary ballot paper; crosses on the local government ballot paper; along with other combinations. This was not possible, however, given the Review's goal not to undermine the secrecy of the ballot papers. The process would have required access to the corresponding number list for each polling station, allowing us to link the parliamentary ballot papers with the local government ballot papers that were cast by individual voters.

⁴ For the Review's reasoning in this regard, see Chapter 1.4 Approach to the Review.

⁵ Details regarding this process are offered in Chapter 8.2 Electronic Count and Counting Procedures.

- Files of electronic images could not be read from the hard drives supplied by four counting centres, indicating that backup copies were not saved satisfactorily at the end of the count.⁶ These were the three counting centres listed in Section 1 and the North Lanarkshire count which dealt with five constituencies (Motherwell & Wishaw, Hamilton North & Bellshill, Airdrie & Shotts, Coatbridge & Chryston, Cumbernauld & Kilsyth). Thus the analysis reported below is restricted to 63 of the 73 constituencies.

Given these parameters, the Review team examined the electronic images of rejected ballot papers in just three of the rejection categories outlined above – ‘voter can be identified’,⁷ ‘over-voting,’ and ‘void for uncertainty.’ Within the ‘void for uncertainty’ category, the ballot papers considered were limited further to only those designated as ‘uncertain.’ Ballot papers classified within this category as ‘unmarked’ were auto-adjudicated by the DRS electronic count system, without capturing an image of the ballot papers involved.

Thus the 75% of Scottish parliamentary ballot sheets, which were unmarked on one side and had a valid vote on the other, were not part of the Review’s assessment.⁸ These ballot papers could have been rejected at two stages in the electronic counting process:

- Auto-rejection if the DRS system read a clear cross (‘x’) in a single box on one half, unmarked on the other half, or if both sides were designated as unmarked. The Review team did not inspect any of these as this would have required access to the physical ballot papers.
- Ballot papers where the single mark used on one half of the ballot paper was not marked clearly (e.g. a tick or a number ‘1’) would be sent to the Returning Officer queues for decision, or accepted by adjudicators at the standard queue. The Review team inspected only those sent to the Returning Officer queue.

2.2 The analysis of mismarked ballot papers

‘Mismarked’ ballot papers are defined as those on which the voter marks either one or both sides of the combined Scottish parliamentary ballot papers in such a way that a vote for a political party or candidate cannot be determined. Thus this definition includes rejected ballot papers which are in either the ‘uncertain’ or the ‘over-voted’ categories. Problems in this regard are narrowed to five principal types, including instances in which:

- The voter used more than one symbol (usually a cross ‘x’) selecting more than one candidate on one or both sides of the combined Scottish parliamentary ballot sheet. Voters who were confused by the instruction ‘you have two votes’ at the top of the combined ballot papers may well have done this;

⁶ This issue is addressed in Chapter 8.2 Electronic Count and Counting Procedures.

⁷ Very few ballot papers were found within this category.

⁸ See Chapter 6.1 Scottish Parliamentary and Local Government Ballot Papers; Problem 4.

- The voter may have been confused by the use of a new and different voting system on the local government election ballot paper and thus used a sequence of numbers such that his/her first choice is not clear;
- The voter used a mixture of crosses and numbers spread across both the regional and constituency ballot papers on the parliamentary ballot sheet;
- A single symbol was used, although it was not clear which candidate or political party the voter was supporting (e.g. the 'x' is marked across two boxes);
- The voter deliberately spoiled the ballot paper (e.g. by voting for every candidate or political party or by writing in a candidate).

The last two types will occur in any election, but the main interest was in the first three types outlined above. The first indicated that the voter had a problem with the combined Scottish parliamentary ballot paper. The second and third types told us more about whether the introduction of the STV system for the local government election had confused voters when completing their parliamentary ballot papers.

2.3 Methodology

The Review team selected a random sample of parliamentary ballot papers which had been mismarked on one or both sides of a ballot sheet and rejected by Returning Officers in each of the 63 constituency files of electronic images made available to us. The sampling rate was approximately 1 in 14 (or 7%) in each constituency giving an achieved sample size of 1,791. With this sample size, the 95% confidence interval for estimates of percentages obtained is approximately +/- 1%.

Among the ballot papers selected for inspection, the following was recorded:

- The type of mismarking (as set out above); and
- The number of candidates/political parties voted for if over-voting, whether the ballot paper was postal or not.

2.4 The results

Table 2.1:
Patterns of over-voting using crosses ('x'): Estimated percentage of mismarked Scottish parliamentary ballot paper for combinations of over-voting*

			Constituency ballot papers					Sample size
			Type of 'over-voting'					
			Unmarked	One cross	Two crosses	Three crosses	Four crosses	
Regional ballot papers	Type of 'over-voting'	Unmarked			4.3	0.4	0.2	89
		One cross			3.4	0.2		73
		Two crosses	36.7	42.0	2.2			1 425
		Three crosses	2.8	3.1				114
		Four crosses	0.6					33
		More than four crosses						22
		Sample size	709	831	181	15	17	4

*Cells not shown: (1) four blank cells in the upper left corner: $11/1757=0.6\%$ voted for one candidate but unclear for whom; (2) All 21 blank cells on and below the diagonal $60/1757=3.4\%$ voted for more than four candidates across both sides of the Scottish parliamentary ballot sheet

While 96% of ballot papers classified as mismarked on one or both of the Scottish parliamentary ballot papers used symbols (almost all using crosses), only 4% of these ballot papers were rejected due to an unacceptable mixture of crosses and numbers.

In Table 2.1, which is based on the 96% of voters who used symbols (i.e. 'x'), the dominant cells are:

- 36.7% (including ballot papers where two crosses were cast on the regional parliamentary ballot paper and the constituency parliamentary ballot paper was left unmarked); and
- 42.0% (including ballot papers where two crosses were cast on the regional parliamentary ballot paper and the constituency parliamentary ballot paper was marked once. The latter ballot paper was accepted).

Thus, four out of five ballot papers on which over-voting occurred were found to have two crosses on the regional parliamentary ballot paper and none or one cross ('x') on the constituency ballot paper.

2.5 Postal voters

One argument of interest has been that voters who cast their vote by post were more likely to mismark their ballot papers than those who cast their vote in polling stations where help in completing ballot papers was available from posters, information officers, etc. There is little evidence to support such a hypothesis as only 6.7% of the random sample selected cast their vote by post, compared with 14.7% of all counted ballot papers being cast by post. We cannot be certain, however, that the hypothesis should be rejected for two reasons. First, postal voters who may have been confused by what they had to do may have had their ballot papers rejected before the count (as were 3% of all postal ballot papers); and postal voters may have had a higher rate of rejections than voters in polling stations because they did not mark one or both halves. For reasons already described in the introduction of the report, the Review team did not investigate these reasons further.

2.6 Consistency problems

An incidental outcome of the inspection of the random sample of mismarked ballot papers is that the Review team saw some inconsistencies in decision-making with respect to the validity of ballot papers. Such inconsistencies can be expected. First, decisions are being made by individuals working under pressure who may interpret rules and guidance in different ways; and second, the rules and guidance available may not cover particular circumstances in which an interpretation is required. In any case, the decisions of Returning Officers (and Deputies) are final.

Some examples observed within our sample are provided below. It should be noted that some Returning Officers interpreted 'uncertainty' and 'over-voting' differently when classifying rejected mismarked ballot papers,⁹ so the interpretation of the statistics reported for these two categories may not be clear cut.

⁹ Some Returning Officers were not entirely methodical when deciding which of these two categories to use when determining to reject a ballot paper. The Returning Officer's decision to reject or accept a ballot paper was of primary importance, however. Which category to place a rejected ballot paper was of secondary importance.

The relevant legislation¹⁰ – as implemented in the Electoral Commission’s booklet ‘Dealing with doubtful ballot papers’ and the ‘placemat’ guidance charts associated with it¹¹ – indicates that Scottish parliamentary ballot papers marked ‘1, 2, 3...’ should be accepted for the first choice candidate. Some Returning Officers occasionally rejected ballot papers marked in this manner; one Returning Officer consistently rejected them.

In general, no guidance was provided for (unexpected) mixtures of crosses (‘x’) and numbers on the parliamentary ballot paper (although these accounted for less than 4% of all mismarked ballot paper in our sample). In these instances, Returning Officers made their own decisions as to what would be accepted. Some examples include:

- An ‘x’ and a ‘1’ being placed in the same box; these were sometime rejected, sometimes accepted;
- An ‘x’ and a ‘1’ being placed in different boxes. These were occasionally accepted for the ‘x’ and occasionally accepted for the ‘1’, but were usually rejected as either ‘uncertain’ or ‘over-voted’.
- The sequence “x, 2, 3” was sometimes not accepted as a vote for the ‘x’ (note that the placemat guidance for this sequence on the local government ballot paper converts the ‘x’ to a ‘1’ and accepts the ballot paper [per Rule 43(2)(a)].

A small number of ballot papers used numbers where there was no clear first choice. There was no guidance for this unexpected situation so the interpretation of Returning Officers varied across counting centres. Examples include situations where:

- The sequence ‘1, 2, 3’ is found across the two parliamentary ballot papers, with ‘1, 2’ on the regional ballot paper and ‘3’ on the constituency ballot paper. In one example, the ‘1’ was not accepted as a vote on the regional ballot paper, but the single ‘3’ was accepted on the constituency ballot paper.
- A single number (but not a ‘1’) was marked on one of the parliamentary ballot papers – sometimes in the equivalent row. Two examples are offered. A first is where a ‘3’ is found next to the candidate in the third row of the ballot paper; a second is where a ‘5’ is found next to the candidate in the fourth row.

In considering these inconsistencies, it should be emphasised that the Review team did not conduct a systematic and comprehensive study of consistency of adjudications within and between counting centres. To do so would require a detailed analysis of a sample of ballot papers sent to both the standard queue for adjudication and of those ballot papers sent to the Returning Officer queue for adjudication.

¹⁰ Scottish Parliament (Elections etc) Order 2007. Rule 58(5).

¹¹ Electoral Commission. *Dealing with doubtful ballot papers*. 2007; and related charts *Local government doubtful ballots – allowed votes* and *Scottish Parliamentary ballots – allowed votes*. 2007.

3.0 Analysis of electronic images of rejected local government ballot papers

3.1 Introduction

The overall rejection rates for the standard categories of rejection type are given in Table 3.1.¹²

Table 3.1
Overall distribution of rejected ballot paper type for the local government elections

Rejection category	Rejection of local government ballot papers
Voter can be identified	110 (0.29%)
No official mark	68 (0.18%)
Over-voting	15,315 (39.9%)
Void for uncertainty *includes ballot papers <i>unmarked & uncertain</i>	22,858 (59.6%)
Total	38,351 (100%)

DRS was asked to provide a statistical breakdown, separating out unmarked ballot papers from 'uncertain' ones in the 'void for uncertainty' category. They were able to process data for 28 of the 32 local authorities where readable copies of data had been saved at the end of the count. The counting centres where this was not possible are Stirling, Scottish Borders and Aberdeenshire, Aberdeen City. Thus all the following analyses are based on 28 of the counting centres. The results aggregated over the 28 counting centres available are given in Table 3.2.

¹² Electoral Commission. Email confirmation of statistics for 2007 Scottish parliamentary and local government elections. 28 September 2007. Percentages are calculated on all ballot papers cast which were rejected at the count.

Table 3.2
Percentage estimates in each local government ballot paper category

Ballot paper category	Local government ballot papers
Valid	98.13
Rejected Void for uncertainty -- <i>unmarked</i>	0.24
Rejected Void for uncertainty -- <i>uncertain</i>	0.83
Rejected Over-voted	0.79
Rejected No official mark or Voter identified	0.01
Total	100

The overall estimate of rejected ballot papers of 1.87% in this table is close to the overall figure of 1.83% for Scotland obtained from official returns.

3.2 Methodology

The Review team inspected a sample of 2,702 ballot papers which had been rejected in either the category ‘void for uncertainty – *uncertain*’¹³ or ‘over-voting.’ One randomly chosen ward from each local authority available was selected and all the electronic images of the mismarked ballot papers in this ward were inspected. The 95% confidence interval for percentages for this sample size (after adjusting for the clustering within wards) is less than +/- 1.5% for percentages over 75% and less than +/- 0.5% for percentages less than 10% (see Table 3.3 below).

A number of different types of mismarking were defined, as set out in Table 3.3.

¹³ See Section 1.1 above for distinction between ‘Void for uncertainty – *uncertain*’ and ‘Void for uncertainty – *unmarked*.’

3.3 Results

Table 3.3
Local government ballot papers: Percentages for mismarking types

Type of mismarking	Description	Percentage
1	Multiple unordered symbols only (e.g. 'X, X, X')	76.5
2	Mixture of symbols and numbers (e.g. 'X, 1' or 'X, 2, 3, 4')	2.4
3	More than one first choice (e.g. '1, 1, 2')	3.1
4	Single number (not 1) (e.g. '3')	6.0
5	Invalid number sequence with missing first choice (e.g. '2, 3, 4')	4.0
6	Other (includes spoilt ballot papers and those where voter identified)	7.9
Sample size = 2702; 98 ballot papers partially accepted by Returning Officers (first part of number sequence valid, second part not; e.g. '1,2,4') excluded		

Types one and two are indicative of a voter who has confused the parliamentary ballot marking requirements with those of the STV system (but note that a single symbol on the ballot paper is accepted as a first choice). Type 1 accounts for over three-quarters of the rejections. The Review team observed inconsistent treatment of ballot papers of type two – some Returning Officers accepted the '1' as the first choice in a '1, X' pattern; others rejected this. At least one Returning Officer rejected the pattern 'X, 2, 3 4' despite the Electoral Commission's guidance that this was valid [(Rule 43(2)(b))].

Types 3 - 5 indicate voters who understand that they should use numbers but have not used an acceptable number sequence, but these account for a small proportion of the rejections (about 13% of the rejections, or about 1 in 420 of all voters). We suspect that some of these voters are spreading the number sequence '1, 2, 3...' across the parliamentary ballot papers and the local government ballot paper. There is no specific guidance for the treatment of these unusual number patterns so there were variations between the Returning Officers in the decisions they made. For example in at least one counting centre a Returning Officer accepted the sequence '4, 5,' changing it to '1, 2,' while also accepting a single '4' by changing it to a '1' on another ballot paper.