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Analysis of informal voting

2016 House of Representatives elections

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Executive summary

Following each general election for the House of Representatives, the Australian Electoral Commission (AEC) undertakes an Informal Ballot Paper Study (IBPS) to analyse the levels and types of informal voting. Research based on the IBPS is fundamental to the AEC's role in supporting electoral integrity by:

- Informing education and information strategies to reduce informal voting, including through the provision of robust information at the polling place level.
- Providing an evidence base for reforms to the electoral system, for example, by enabling analysis of:
 - the impact of Optional Preferential Voting, and
 - aligning savings provisions between the House of Representatives and the Senate.

The national informality rate (informal votes as a percentage of all votes cast) decreased from 5.91 per cent of all votes cast at the 2013 House of Representatives elections to 5.05 per cent at the 2016 House of Representatives elections. At the state and territory level, the highest informality rates for the 2016 House of Representatives elections were in the Northern Territory, New South Wales and Victoria, while the lowest informality rates were in the Australian Capital Territory, Tasmania and Western Australia.

Figure 1. Informality rates by state/territory, 2013–2016 House of Representatives elections



(Australian Electoral Commission, 2013; 2016f)

Compared with the 2013 House of Representatives elections, informality rates decreased in every state and territory other than the Northern Territory. The largest decreases were in New South Wales, Western Australia and the Australian Capital Territory.

For the first time since 2001, the ten Commonwealth electoral divisions with the highest levels of House of Representatives informality were not all located in Sydney. While eight of these divisions were in Sydney (Lindsay, Blaxland, Watson, Fowler, McMahon, Parramatta, Werriwa and Barton), the two other divisions were located in Victoria (Murray) and Queensland (Longman).

Major process improvements for the 2016 IBPS (including data based on scanned ballot paper images) have improved data quality and the range of analyses that can be conducted, but mean that caution should be used when comparing 2016 results against previous years.

For the first time since 2001, more than half of all informal ballots cast at the 2016 House of Representatives elections were assumed to be intentionally informal. However, among the ten divisions with the highest rates of informal voting, more than half of all informal ballots were assumed to be unintentionally informal, and assumed unintentional informality was a highly significant predictor of the total informality rate.

More than a quarter of all informal votes cast in 2016 had incomplete numbering, with more than half of these showing a number '1' only. A further quarter of all informal ballots cast were totally blank, while about one in five were informal due to scribbles, slogans or other protest vote marks and one in six showed non-sequential numbering.

Table 1 below summarises the number of informal votes in each category, as well as the proportion each category represents of the total number of informal votes and of the total of all votes cast.

Table 1. Informal ballot papers by category, 2016 House of Representatives elections

Category	Clear first preference no.	No clear first preference no.	Total		Informality rate %
			no.	%	
Totally blank	..	179,243	179,243	24.9	1.26
Incomplete numbering	183,183	..	183,183	25.4	1.28
<i>Number '1' only</i>	105,093	..	105,093	14.6	0.74
<i>Other incomplete numbering</i>	78,090	..	78,090	10.8	0.55
Ticks and crosses	48,444	6,677	55,121	7.6	0.39
Other symbols	9,458	1,678	11,136	1.5	0.08
Non-sequential numbering	84,960	26,055	111,015	15.4	0.78
Scribbles, slogans and other protest vote marks	..	142,933	142,933	19.8	1.00
Illegible numbering	12,083	7,652	19,735	2.7	0.14
Voter identified	117	..	117	0.0	0.00
Other	5,085	13,347	18,432	2.6	0.13
Total	343,330	377,585	720,915	100.0	5.05

(Australian Electoral Commission, 2018a).

There are many factors that appear to affect informal voting at the House of Representatives. Over the past few elections the Australian Electoral Commission (AEC) has investigated a variety of factors using both AEC and Australian Bureau of Statistics (ABS) data.

While the AEC does not usually conduct studies of by-election informality, the 45th Parliament has had an unusually high number of by-elections, providing the opportunity to examine some specific factors affecting informality. In order to examine the effect of confusion over the Senate voting system and the effect of not having a candidate from a major party, the AEC conducted studies on the Longman and Fremantle by-elections respectively.

These analyses have found that:

- Higher levels of informality are likely to be associated with higher levels of social exclusion or relative disadvantage.
- The number of candidates on the ballot paper was a significant predictor for both incomplete numbering (other than a number '1' only) and non-sequential numbering where a clear first preference was evident. In other words, if there were more candidates on the ballot paper, voters were more likely to make a mistake or simply stop numbering before they had assigned preferences to all candidates

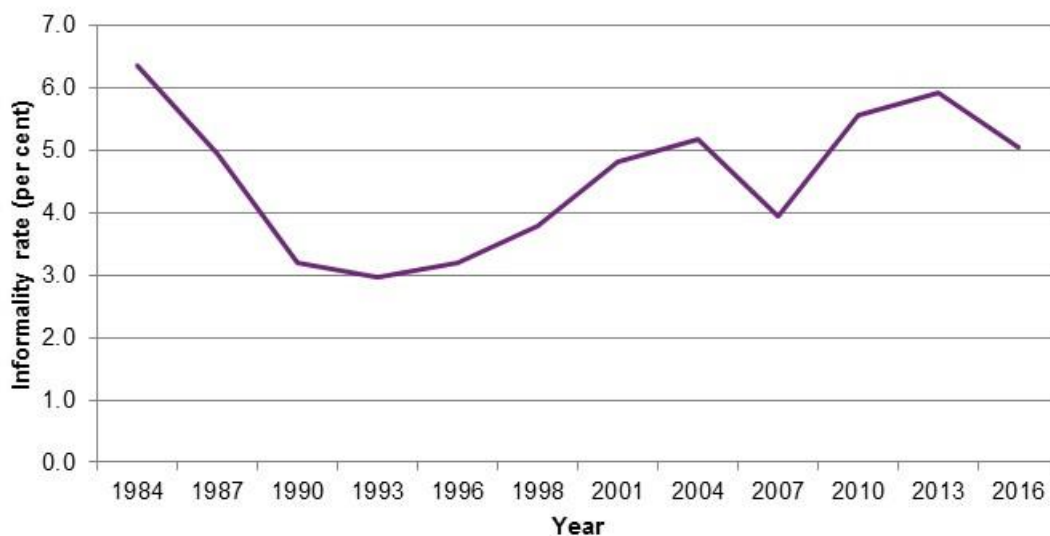
- It appears that many voters may have been confused about the difference in voting requirements between the House of Representatives and Senate at the 2016 federal election, recording preferences '1' to '6' only (in line with the 'above the line' instructions for the Senate) on their House of Representatives ballot paper. These ballot papers are included in incomplete numbering (other than a number '1' only) in Table 1 above.
 - This proposition is strongly supported by the outcome of the 2018 Longman by-election. The number of candidates was unchanged from the 2016 federal election, but in the absence of the Senate vote (and the accompanying AEC messaging and media attention), '1' to '6' votes fell substantially at the by-election.
- Voter confusion about the differences between state and federal electoral systems may be contributing to some categories of informal ballots (particularly for House of Representatives ballots with incomplete numbering or where ticks and crosses have been used as the first preference).
- As some informal votes are cast intentionally rather than representing an error on the part of the voter, voters' attitudes to and opinions of the electoral system or politics in general will also likely influence informality.
 - This was supported by the 2018 Fremantle by-election, in which the most notable change from 2016 was the higher prevalence of ballot papers marked with scribbles, slogans, or other protest marks. Many of these ballot papers referenced the lack of a Liberal candidate or appeared to be an attempt to vote for a Liberal candidate.

Key findings

Informal voting at House of Representatives elections

- The House of Representatives informality rate decreased from 5.91 per cent of all votes cast in 2013 (811,143 informal votes) to 5.05 per cent in 2016 (720,915 informal votes).
- While volatility in informal voting means that it is difficult to reliably determine trends, informality has increased at seven out of the twelve general elections for the House of Representatives held since the introduction of major electoral reforms in 1984.

Figure 2. Informality rates, 1984–2016 House of Representatives elections



(Australian Electoral Commission, 2016c).

- At the state and territory level, the highest informality rates were in the Northern Territory (7.35 per cent), New South Wales (6.17 per cent) and Victoria (4.77 per cent), while the lowest informality rates were in the Australian Capital Territory (2.76 per cent), Tasmania (3.98 per cent) and Western Australia (3.99 per cent).

Table 2. Informal voting by state/territory, 2016 House of Representatives elections

State/territory	Formal votes no.	Informal votes no.	Total votes no.	Informality rate %	Informality swing p.p.
NSW	4,364,320	287,079	4,651,399	6.17	-1.42
Vic.	3,440,654	172,169	3,612,823	4.77	-0.42
Qld	2,671,229	131,722	2,802,951	4.70	-0.43
WA	1,338,337	55,669	1,394,006	3.99	-1.39
SA	1,040,736	45,435	1,086,171	4.18	-0.67
Tas.	335,623	13,926	349,549	3.98	-0.06
ACT	252,742	7,185	259,927	2.76	-1.07
NT	97,460	7,730	105,190	7.35	1.05
Total	13,541,101	720,915	14,262,016	5.05	-0.86

(Australian Electoral Commission, 2016f).

- The ten divisions in 2016 with the highest levels of informal voting were Lindsay (11.77 per cent), Blaxland (11.55 per cent), Watson (10.65 per cent), Fowler (10.41 per cent), McMahon (9.89 per cent), Parramatta (9.26 per cent), Murray (8.84 per cent), Werriwa (8.76 per cent), Longman (8.53 per cent) and Barton (8.35 per cent).
 - For the first time since 2001, not all of these divisions were in Sydney. The division of Murray is located in northern Victoria, while the division of Longman covers parts of the local government areas of Moreton Bay, Somerset and Sunshine Coast in Queensland.
 - Of these top ten divisions, seven were also in the top ten divisions with the highest informality rates in 2013. The remaining three (Lindsay, Murray and Longman) were ranked 14th, 36th and 100th in 2013, respectively.

Improvements made for the 2016 Informal Ballot Paper Study

- There were major changes in processes used for the 2016 IBPS. Key among these was that all informal ballot papers cast for the House of Representatives were scanned, with IBPS fieldwork centralised and based on these images. Previously, IBPS fieldwork was conducted in AEC divisional offices based on physical counts and categorisation of informal ballot papers.
- The centralised fieldwork in 2016 used a combination of complete enumeration for some divisions (including the ten divisions with the highest informality rates as well as all divisions in Western Australia, South Australia, Tasmania and the Northern Territory), with a statistically representative (1 in 10) sample used for all remaining divisions.

- The change from a distributed physical count of ballot papers to a centralised process based on scanned images was made to improve the data quality and consistency of categorisation, provide additional analytical information and aid in the management of Divisional Office workloads during the post-election period. It will also provide an historical record of informal ballot papers for future study, facilitating longitudinal studies of informal voting using primary sources and allowing the AEC to be more responsive to emerging needs.
- Informality categories used for dissemination purposes, as well as definitions of assumed unintentional or intentional informality are largely the same as those in 2013. However, the significant changes to IBPS processes for 2016 mean that any comparisons with previous years should be made with caution.

Categories of informal ballots

- At the national level, more than a quarter of all informal ballots cast in 2016 (25.4 per cent) showed incomplete numbering. The majority of ballots with incomplete numbering (14.6 per cent of all informal ballots) showed a number '1' only.
- A further quarter of all informal ballots (24.9 per cent) were totally blank, while a fifth (19.8 per cent) were informal due to scribbles, slogans or other protest vote marks and a sixth (15.4 per cent) showed non-sequential numbering. About one in every thirteen informal ballots cast (7.6 per cent) showed ticks or crosses. The remaining 6.9 per cent of informal ballots showed other symbols, illegible numbering, voter identification, or were informal for other reasons.
- While incomplete numbering continues to be the most common category of informal ballot, the decrease in total informality between the 2013 and 2016 House of Representatives elections appears to be mainly due to a decrease in the number of ballots with a number '1' only, partially offset by an increase in blank ballots, ballots with other forms of incomplete numbering, and ballots showing scribbles, slogans or other protest vote marks.
- The high numbers of ballot papers numbered '1' to '6' only in some divisions suggests that many voters may have been confused about the difference in voting requirements for the House of Representatives and the Senate at the 2016 federal election. That is, rather than numbering every box on their House of Representatives ballot, they numbered '1' to '6' in line with the 'above the line' requirements for a Senate ballot paper.
 - There were sixteen divisions where ballots numbered '1' to '6' only accounted for more than a fifth of all informal ballots cast, in four of which they accounted for more than a quarter of all informal ballots cast.

Assumed unintentional and intentional informality

- For the 2016 study informal ballots that showed a clear first preference were generally assumed to be unintentionally informal, while those with no clear first preference were assumed to be intentionally informal.
- There were more ballot papers at the 2016 House of Representatives elections assumed to be intentionally informal than were assumed to be unintentionally informal. Informality studies conducted in respect of previous elections have all had more ballot papers assumed to be unintentionally formal than intentionally formal.
 - While the methodological improvements implemented for the 2016 IBPS limit the usefulness of comparisons against previous informality studies, it appears that this change was primarily driven by a decrease in the number of ballots showing a number '1' only and an increase in the number of ballots showing scribbles, slogans and other protest vote marks.
- In general, higher overall levels of informal voting within a division were associated with higher levels of unintentional informality.
 - All ten divisions with the highest rates of informal voting had more than half of their informal ballots assumed to be unintentionally informal.
 - While assumed intentional informality did not have as strong an influence on the total informality rate, the ten divisions with the lowest rates of informal voting had more than half of their informal ballots assumed to be intentionally informal (and in nine of the ten, more than 60 per cent of informal ballots were assumed to be intentionally informal).

Factors influencing informal voting

- There are many factors that appear to affect the levels and/or types of informal voting at federal elections. However, the complex linkages and interrelationships between these factors, as well as the secret ballot and unique environment for each election mean that it is sometimes not possible to accurately quantify – or even separately identify – the impact a particular factor may have.
- AEC analysis of House of Representatives informal voting at the 2016 and previous federal elections has indicated that:
 - A wide range of socio-demographic and socio-economic factors are associated with geographic areas recording higher informality. When taken together, these could be

associated with higher levels of social exclusion or disadvantage (for example, due to poor English language skills or a lack of education).

- A change in the number of candidates between elections is a significant predictor of changes in informal voting.
- Voter confusion about the differences between state and federal voting systems may influence the number of ballots with incomplete numbering or ticks and crosses in some states and territories. That is, states or territories where optional preferential voting methods applies in lower house elections, or where ticks or crosses are accepted as a valid first preference mark appear to show higher proportions of informal ballots with such characteristics at House of Representatives elections.
- Voter confusion about the differences between requirements for House of Representatives and Senate ballot papers also appears to have contributed to increases in the number of ballots with incomplete numbering (particularly those numbered from '1' to '6' only).
- As an intentionally informal vote represents a deliberate choice, voters' attitudes to and opinions of the electoral system or politics in general may contribute to (or even override) any of the other factors influencing informality.

Socio-demographic factors

- Comparison of IBPS results against results from the 2016 Census of Population and Housing indicates a range of factors may be associated with higher levels of informal voting, however it is important that readers interpret these findings with appropriate caution.
 - Correlation, which is an apparent relationship between two sets of data, does not imply causation.
 - Data points do not represent individuals, but rather an aggregate of people's demographics or voting behaviour in a given area. As such there are limitations to what can be concluded from correlation analysis, and possible incorrect inferences at the individual level need to be accounted for.
 - There will be a range of complex linkages and interrelationships between socio-demographic and socio-economic characteristics.

Number of candidates

- At the 2016 House of Representatives elections, the number of candidates ranged from a low of 3 (in the Division of Gorton) to a high of 11 (in the Divisions of Batman, Dunkley, Grayndler, Lindsay, Longman, Murray and Solomon).
- Logically, having more candidates on a ballot paper increases the likelihood that a voter will make an error while marking the ballot, or simply decide to stop numbering at a given point.

- Analyses of results from the 2016 House of Representatives election indicate that while the number of candidates on the ballot paper is a relatively poor predictor of the total informality rate for a division, it is a good predictor for the rates of ballot papers with incomplete numbering (other than a number '1' only) and ballots with non-sequential numbering where there is a clear first preference.

Differences between electoral systems

There was some evidence suggesting that the types of informal votes cast at House of Representatives elections may be influenced by the different electoral systems used at the state/territory and federal levels. In particular:

- Jurisdictions where a single preference on a state or territory lower house ballot paper represented a formal vote tended to have higher proportions of House of Representatives ballots with incomplete numbering.
- Jurisdictions where a tick or cross could represent a valid first preference on a state or territory lower house ballot paper tended to have higher proportions of House of Representatives ballots where a tick or cross had been used as a first preference.

Introduction

Some votes at every federal election are informal; that is, they are not filled out in accordance with the requirements of the *Commonwealth Electoral Act 1918* (the Electoral Act) and therefore cannot be included in the count of votes leading to the election result. The level of informal voting can provide an indication of elector engagement with, and understanding of, the electoral process and (together with measures of electoral enrolment and turnout) is a key indicator of democratic health in Australia.

This paper analyses informal voting at the 2016 House of Representatives elections and presents results from the AEC's 2016 House of Representatives Informal Ballot Paper Study (IBPS). Statistics on informal voting at previous general elections for the House of Representatives are also included to provide a historical context for the 2016 figures.

Analysis in this report includes discussions of proportions of informal votes and informality rates.

- Proportions of informal votes use the relevant *total number of informal votes* as the denominator, and are shown to one decimal place.
- Informality rates (proportions of total votes cast) use the relevant *total number of votes cast* as the denominator and are shown to two decimal places.

End notes (indicated by numeric superscripts) are used throughout this report. Readers should refer to the *End notes* commencing on page 96.

Methodology

Three main sources of data were used to analyse informal voting at the 2016 House of Representatives elections for this paper. These were:

- Published statistics at the national, state and polling place level for previous federal elections
 - These include election statistics released via the AEC's Tally Room.
- The 2016 House of Representatives Informal Ballot Paper Study (IBPS)
 - For the first time, counts for this study were based on scanned images of all informal ballot papers cast, rather than a physical sorting, categorisation and count of these ballots.
 - Information about the contents and characteristics of informal ballot papers was compiled through a combination of complete enumeration and statistically representative sample data. This information was used to programmatically derive counts for informality categories. Validation and proration processes were then applied

to ensure that counts derived from the data entry exercise matched previously declared election results.

- The 2016 Census of Population and Housing
 - The General Community Profile (GCP) DataPacks available on the ABS web site were used to construct demographic information about the population in Commonwealth Electoral Divisions (using 2016 electoral boundaries) and polling place catchment areas.

Voting requirements

Under section 268 of the Electoral Act, ballot papers cast in House of Representatives elections are informal if:

- they have not been authenticated by the initials of the presiding officer or the issuing officer, or by the presence of the official mark¹,
- the ballot paper has no vote indicated on it,
- subject to the exceptions noted below, the ballot paper does not indicate the voter's first preference for one candidate, and an order of preference for all the remaining candidates,
- the ballot paper has any mark or writing on it by which, in the opinion of the Divisional Returning Officer, the voter can be identified, or
- the ballot paper is not for the division being counted, and is not contained in an envelope bearing a declaration made by the elector under subsection 222(2) or (1A) of the Electoral Act.

If one box is left blank (meaning that there is no marking in the box at all) and all other boxes have been numbered in a consecutive sequence starting with the number '1', the ballot paper is formal (that is, it is deemed that the voter's last preference is for the candidate where the square is left blank). If two or more boxes on a House of Representatives ballot paper have been left blank, the ballot paper is informal.

If there are only two candidates on the ballot paper and the voter has placed a '1' in the box beside a candidate and either left the second box blank or inserted a number other than '2' in it, the ballot paper is formal (that is, the voter is deemed to have indicated an order of preference for all candidates).

Ticks or crosses are not acceptable forms of voting for House of Representatives elections, and ballot papers containing ticks and crosses are informal.

Alterations to numbers will not make a ballot paper informal, provided the voter's intention is clear (for example, a number can be crossed out and another number written beside it). However, if a number is overwritten in a way that makes it impossible to read, the ballot paper is informal.

Categorisation of informal ballot papers

The 2016 IBPS introduced categorisation of informal ballot papers based on the centralised processing of scanned ballot paper images rather than a physical sort, categorisation and count exercise conducted within AEC Divisional or State Offices. A combination of complete enumeration and statistically representative sampling was used to collect the characteristics of informal ballots cast in each division, with category counts derived programmatically. These changes were made to:

- improve the consistency of categorisation,
- provide a range of additional information for analytical purposes, and
- aid in the management of workloads in AEC Divisional and State Offices during the scrutiny period of the election (i.e. the counting and reconciliation period following polling day).

The broad informality categories used to analyse and disseminate results from the 2016 IBPS are consistent with those used for the 2013 IBPS. Definitions of ballot papers assumed to be unintentionally or intentionally informal also remain unchanged from 2013, with all ballot papers showing a clear first preference assumed to be unintentionally informal.

The process used to assign ballot papers to informality categories for dissemination purposes is hierarchical, using two levels of coding.

- In the first instance, ballot papers for each division being processed² were assigned a first level showing whether or not the ballot paper had a clear first preference, and which candidate any such first preference was assigned to.
 - Ballot papers where a first preference was clear had a level 1 code of 'An', where *n* represented the most preferred candidate listed on the ballot paper (i.e. A1, A2, A3 etc.)
 - Informal ballot papers where no first preference was clear had a level 1 code of 'B'
- The second level of coding was used to identify the key feature of each informal ballot paper, with hierarchies used to determine categories for ballot papers exhibiting multiple types of informality.
 - A: Totally blank ballots
 - B1: Incomplete numbering - number '1' only
 - B0: Incomplete numbering - other incomplete numbering
 - C: Ticks and crosses
 - D: Other symbols
 - E: Non-sequential numbering
 - F: Scribbles, slogans and other protest vote marks
 - G: Illegible numbering
 - H: Voter identified
 - I: Other

- Some additional level 2 codes were also derived for specific analytical purposes. For example, a level 2 code of B6 was used to identify informal ballot papers where there was incomplete numbering, with a '1', '2', '3', '4', '5' and '6' only. This contributed to analysis relating to the potential impact of recent changes to the Senate voting system on House of Representatives informality (specifically the requirement for voters casting 'Above the Line' votes in the Senate to number at least 6 preferences, rather than just recording a number '1' as at Senate elections between 1984 and 2016).

Each informal ballot paper was assigned to an informality category by combining the level 1 and 2 codes. For example, a ballot paper where there was a clear first preference for the second candidate with no numbers against other candidates would be assigned a level 1 code of A2 and a level 2 code of B1, and would therefore be placed in informality category A2B1.

A list of the main informality categories used for the 2016 IBPS is provided in the following table. Detailed explanations of these informality categories are provided in Appendix B (commencing on page 77).

Table 3. Main informality categories³, 2016 House of Representatives Informal Ballot Paper Study

Category code	Meaning
<u>Informal ballot papers with a clear first preference</u>	
The notation <i>n</i> in each code represents the ballot paper position of the candidate of first preference. For example, a division with three candidates will have three possible categories for number '1' only ballot papers (A1B1, A2B1 and A3B1), while a division with six candidates will have six possible categories for number '1' only ballot papers (A1B1, A2B1, A3B1, A4B1, A5B1 and A6B1).	
AnB1	Incomplete numbering – number '1' only
AnB0	Incomplete numbering – other ⁴
AnC	Ticks and crosses (first preference clear)
AnD	Other symbols (first preference clear)
AnE	Non-sequential numbering (first preference clear) ⁴
AnG	Illegible numbering (first preference clear)
AnH	Voter identified
AnI	Other informal ballots (first preference clear)
<u>Informal ballot papers with no clear first preference</u>	
BA	Totally blank ballot papers
BC	Ticks and crosses (first preference not clear)
BD	Other symbols (first preference not clear)
BE	Non-sequential numbering (first preference not clear)
BF	Scribbles, slogans and other protest vote marks
BG	Illegible numbering (first preference not clear)
BI	Other informal ballot papers (first preference not clear)

(Australian Electoral Commission, 2018a)

Comparing 2016 Informal Ballot Paper Study results with previous years

Table 4 on page 20 shows how the broad informality categories used for the 2016 IBPS align against categories used for previous informality studies. However, due to the major process changes associated with the 2016 IBPS, caution should be used when comparing figures from this year with figures from previous informality studies.

The 2016 definitions of assumed unintentional and intentional informality match those used in the 2013 IBPS, but are not consistent with those used in 2010 or 2007. In these years, only those ballots with incomplete numbering, non-sequential numbering, ticks and crosses, and those where the voter had been identified were assumed to be unintentionally informal. All other informal ballot papers

(including those with illegible numbering or other symbols such as Yes/No indicators, where a clear first preference may have been evident) were assumed to be intentionally informal.

The comparability of data at the divisional level will also be impacted by changes to Commonwealth Electoral boundaries resulting from redistributions occurring between elections.⁵ The electoral boundaries used for each House of Representatives informality study are those in place at the time of the relevant election.

Table 4. Comparability of broad informality categories⁶ used for the 2016 Informal Ballot Paper Study

Broad informality category used for 2016 IBPS	2013	2010	2007	2004	2001
Totally blank ballot papers	Yes	Yes	Yes	Yes	Yes
Incomplete numbering	Yes	Yes	Yes	Yes	Partial ⁷
– Number ‘1’ only ⁸	Yes	Yes	Yes	Yes	Yes
– Other	Yes	Yes	Yes	Yes	No ⁷
Ticks and crosses	Yes	Yes	Yes	Yes	Yes
Other symbols	Yes	Yes	Yes	Yes	No ⁹
Non-sequential numbering	Yes	Yes	Yes	Yes	Yes ¹⁰
Scribbles, slogans and other protest vote marks	Yes	Yes	Yes	Yes	Partial ¹¹
Illegible numbering	Yes	Yes	Yes	Yes	Partial ¹²
Voter identification	Yes	Yes	Yes	Yes	Yes
Other	Yes	Yes	Yes	Yes	Partial ¹³

(Australian Electoral Commission, 2003b; 2005a; 2009b; 2011b; 2016a)

Analysing the demographics of informal voting

Prior to the 2013 IBPS, AEC analysis into the demographics of informal voting focussed on correlations and regressions between informal voting and various Census characteristics of the populations residing in Commonwealth electoral divisions. For the 2013 and 2016 IBPS, more detailed analysis at the polling place catchment area level were conducted in addition to these divisional level analyses.

Large areas or population segments, such as divisions, aggregate the features of the area or population, which can mask relationships. Smaller areas or population segments have less aggregation, and in correlation analysis can give a more accurate set of results. For example, if a division had six areas of equal population and:

- area one had a high proportion of residents with lower levels of educational attainment,

- area two had a high proportion of residents with higher levels of educational attainment, and
- areas three through six had no unusual features with regards to educational attainment,

any relationship between informality and educational level could be masked if the division is considered as a whole. Smaller areas or population segments are therefore desirable for this kind of analysis.

Due to the secret ballot, the smallest geographic area for which it is possible to analyse informal voting is the polling place catchment area. At this level, the data are sufficiently detailed as to give a good understanding of what socio-demographic and socio-economic features affect Australia as a whole, or affect smaller geographic areas such as individual divisions.

The detailed data then improves the understanding of what factors may be related to informal voting, and hence how informality might be addressed.

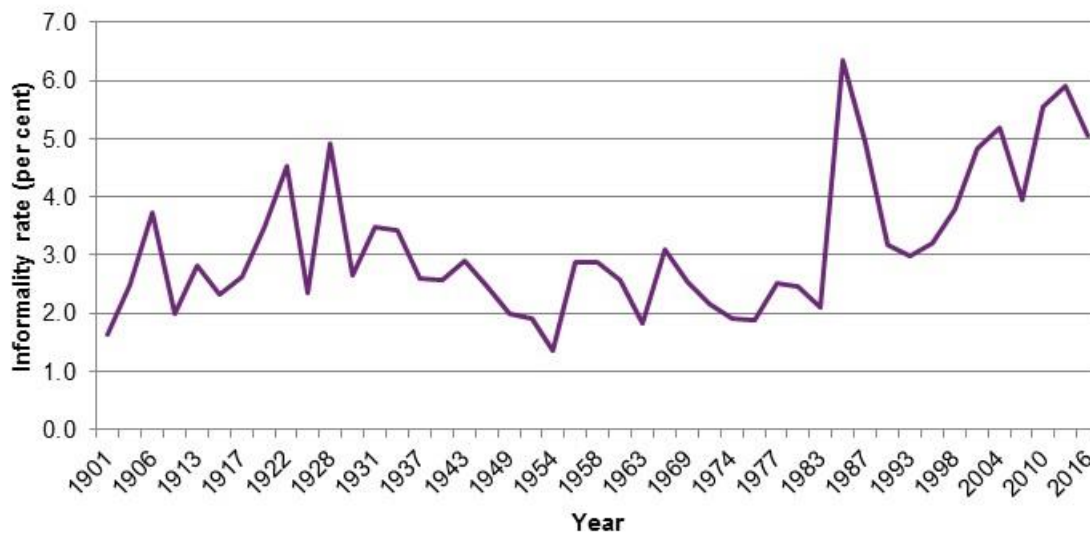
Polling place catchment areas associate geographic areas with a polling place, based on the proportion of voters from each area who attended that polling place. Catchment area-based analyses involved:

- Building a voter-weighted concordance between Statistical Areas Level 1 (SA1s) and polling places, based on 'mark-off' data¹⁴ from the 2016 federal election.
 - Declaration votes were excluded.
 - This concordance connected the SA1 where voters were enrolled with the polling place where they voted, and represented polling place catchment areas.
- Converting variables by SA1 from the General Community Profiles (GCP) produced by the ABS for the 2016 Census of Population and Housing into polling place catchment level data.
 - Means, medians and rates were re-derived, while all other numbers were converted into percentages of each GCP table's total population.
 - This provided a very large set of socio-demographic statistics that could be correlated against informality rates for polling places.

Informal voting at House of Representatives elections

As shown in Figure 3 below and Table 5 on page 23, the national informality rate at the 2016 House of Representatives elections (5.05 per cent) was lower than those recorded in 2013 and 2010 (5.91 and 5.55 per cent, respectively). The most recent previous decrease in informal voting was in 2007 (when it was 3.95 per cent).

Figure 3. Informality rates, 1901–2016 House of Representatives elections



(Australian Electoral Commission, 2016c)

Notes:

- The informality rate for 1901 is an approximate figure only as the number of informal votes are not known for two Western Australian divisions in the 1901 House of Representatives elections.
- Prior to 1984, counts of informal votes (and therefore numerators for informality rates) included missing and discarded ballot papers. Discarded ballot papers are those found inside the polling place but not in a ballot box at the close of polling. Missing ballot papers are those which have been removed from the polling place altogether. Counts of missing ballot papers are calculated by subtracting counts of discarded, formal and informal ballot papers from the total number issued.
- The 1984 peak in informal voting is likely to be due in part to voter confusion resulting from the introduction of 'above the line' voting at Senate elections that year.¹⁵

Table 5. Informal votes, total votes and informality rates by state/territory, 1984–2016
House of Representatives elections

	NSW	Vic.	Qld	WA	SA	Tas.	ACT	NT	Total
Informal votes (no.)									
1984	184,563	187,532	64,197	56,854	70,669	16,237	6,658	2,713	589,423
1987	152,696	134,415	53,622	55,776	60,536	14,297	5,328	3,684	480,354
1990	108,134	94,334	38,065	34,418	34,143	9,774	4,871	2,387	326,126
1993	113,664	79,811	49,135	24,992	39,088	8,634	6,240	2,518	324,082
1996	138,157	83,615	50,605	32,616	39,172	7,472	5,543	2,985	360,165
1998	154,859	103,524	68,659	45,509	44,074	9,819	5,743	3,951	436,138
2001	217,169	122,575	106,995	56,133	55,040	10,856	7,386	4,436	580,590
2004	250,807	128,712	119,829	61,614	55,458	11,769	7,431	4,231	639,851
2007	211,519	106,592	87,708	47,152	38,830	9,796	5,289	3,936	510,822
2010	293,763	149,699	137,395	60,967	56,565	13,791	10,926	6,198	729,304
2013	341,006	180,267	136,403	72,032	51,239	13,892	9,617	6,687	811,143
2016	287,079	172,169	131,722	55,669	45,435	13,926	7,185	7,730	720,915
Total votes (no.)									
1984	3,221,750	2,487,273	1,442,618	806,473	859,629	277,310	141,497	58,871	9,295,421
1987	3,338,616	2,561,375	1,574,113	850,820	884,418	288,962	153,316	63,820	9,715,440
1990	3,462,805	2,661,464	1,709,662	929,117	927,897	299,278	164,933	70,644	10,225,800
1993	3,662,142	2,822,626	1,876,459	993,585	962,763	315,774	186,209	81,303	10,900,861
1996	3,812,366	2,856,936	1,978,775	1,033,572	959,891	318,043	196,406	88,028	11,244,017
1998	3,866,003	2,946,205	2,062,034	1,088,284	970,065	317,296	200,426	94,888	11,545,201
2001	4,005,629	3,077,590	2,213,247	1,140,928	992,747	318,874	210,052	95,597	12,054,664
2004	4,099,501	3,139,881	2,320,717	1,158,687	997,102	327,892	216,057	95,146	12,354,983
2007	4,271,005	3,275,620	2,466,561	1,224,689	1,026,982	334,938	228,870	102,149	12,930,814
2010	4,303,081	3,329,883	2,521,574	1,264,968	1,036,514	340,943	234,623	100,081	13,131,667
2013	4,494,835	3,474,926	2,659,655	1,338,536	1,056,684	344,186	251,120	106,128	13,726,070
2016	4,651,399	3,612,823	2,802,951	1,394,006	1,086,171	349,549	259,927	105,190	14,262,016

	NSW	Vic.	Qld	WA	SA	Tas.	ACT	NT	Total
Informality rate (%)									
1984	5.73	7.54	4.45	7.05	8.22	5.86	4.71	4.61	6.34
1987	4.57	5.25	3.41	6.56	6.84	4.95	3.48	5.77	4.94
1990	3.12	3.54	2.23	3.70	3.68	3.27	2.95	3.38	3.19
1993	3.10	2.83	2.62	2.52	4.06	2.73	3.35	3.10	2.97
1996	3.62	2.93	2.56	3.16	4.08	2.35	2.82	3.39	3.20
1998	4.01	3.51	3.33	4.18	4.54	3.09	2.87	4.16	3.78
2001	5.42	3.98	4.83	4.92	5.54	3.40	3.52	4.64	4.82
2004	6.12	4.10	5.16	5.32	5.56	3.59	3.44	4.45	5.18
2007	4.95	3.25	3.56	3.85	3.78	2.92	2.31	3.85	3.95
2010	6.83	4.50	5.45	4.82	5.46	4.04	4.66	6.19	5.55
2013	7.59	5.19	5.13	5.38	4.85	4.04	3.83	6.30	5.91
2016	6.17	4.77	4.70	3.99	4.18	3.98	2.76	7.35	5.05

(Australian Electoral Commission, 2016c)

Informal votes by vote type

Most electors cast their vote by attending a polling place or pre-poll voting centre in their home division, on or before election day – this is called an ‘ordinary’ vote. However, the Electoral Act also provides for a number of alternative methods of voting – these are collectively termed ‘declaration’ voting because the elector has declared their entitlement to vote.

Ordinary votes comprise:

- *Ordinary vote* – a vote cast by a voter on election day at a polling place in the elector’s enrolled (home) division.
- *Pre-poll ordinary vote* – a vote that is cast as an ordinary vote before election day.
 - Eligible electors are issued ballot papers that, once completed, are placed directly into a ballot box and are counted as ordinary votes on election night.

For **declaration votes** other than pre-poll ordinary votes, the ballot paper is sealed in a declaration envelope signed by the elector and is counted after election night.¹⁶ These comprise:

- *Absent vote* – A declaration vote cast at a polling place located outside the division, but within the state or territory, for which the elector is enrolled on polling day.
- *Postal vote* – A declaration vote, returned to the AEC through the postal system.

- *Pre-poll vote* – A declaration vote lodged at a divisional office or pre-poll voting centre when the elector is unable to be marked off the roll. For pre-poll voting, an elector may not be marked off the roll if their name cannot be found on the roll, or if they are outside of their home division.
- *Provisional vote* – A declaration vote cast by a person at a polling place when:
 - his or her name cannot be found on the certified list,
 - his or her name is marked on the certified list to indicate that he or she has already voted,
 - the relevant polling official has doubts regarding the voter’s identity, or
 - the voter is registered as a ‘silent elector’ whose address does not appear on the certified list. (Australian Electoral Commission, 2011c, p. 74)

Informality rates for pre-poll or postal votes have historically been lower than informality rates for ordinary votes. House of Representatives informality rates for federal elections since 2001 are shown in Table 6 below.

Table 6. Informality rates by vote type, 2001–2016 House of Representatives elections

Vote type	2001 %	2004 %	2007 %	2010 %	2013 %	2016 %
<i>Ordinary votes</i>	5.06	5.51	4.18	5.82	6.23	5.38
Ordinary votes	5.06	5.51	4.18	5.96	6.43	5.59
Pre-poll ordinary votes ¹⁷	..	..	..	4.36	5.29	4.68
<i>Declaration votes</i>	3.52	3.64	2.99	4.12	4.35	3.47
Absent votes	4.89	5.13	4.39	6.01	6.33	5.68
Postal votes	1.69	2.10	2.02	2.63	3.17	2.07
Pre-poll declaration votes	2.81	3.00	2.58	3.56	4.08	3.58
Provisional votes	6.73	6.82	6.24	7.36	8.23	7.20
Total	4.82	5.18	3.95	5.55	5.91	5.05

(Australian Electoral Commission, 2016c)

As has been the case in previous years, the highest informality rates for the 2016 House of Representatives elections were for provisional votes (7.20 per cent of all votes cast) and the lowest were for postal votes (2.07 per cent). Informality rates decreased for every vote type between the 2013 and 2016 elections, with the largest decreases being for postal votes (down 1.10 percentage points to 2.07 per cent) and provisional votes (down 1.02 percentage points to 7.20 per cent).

Informal votes by division

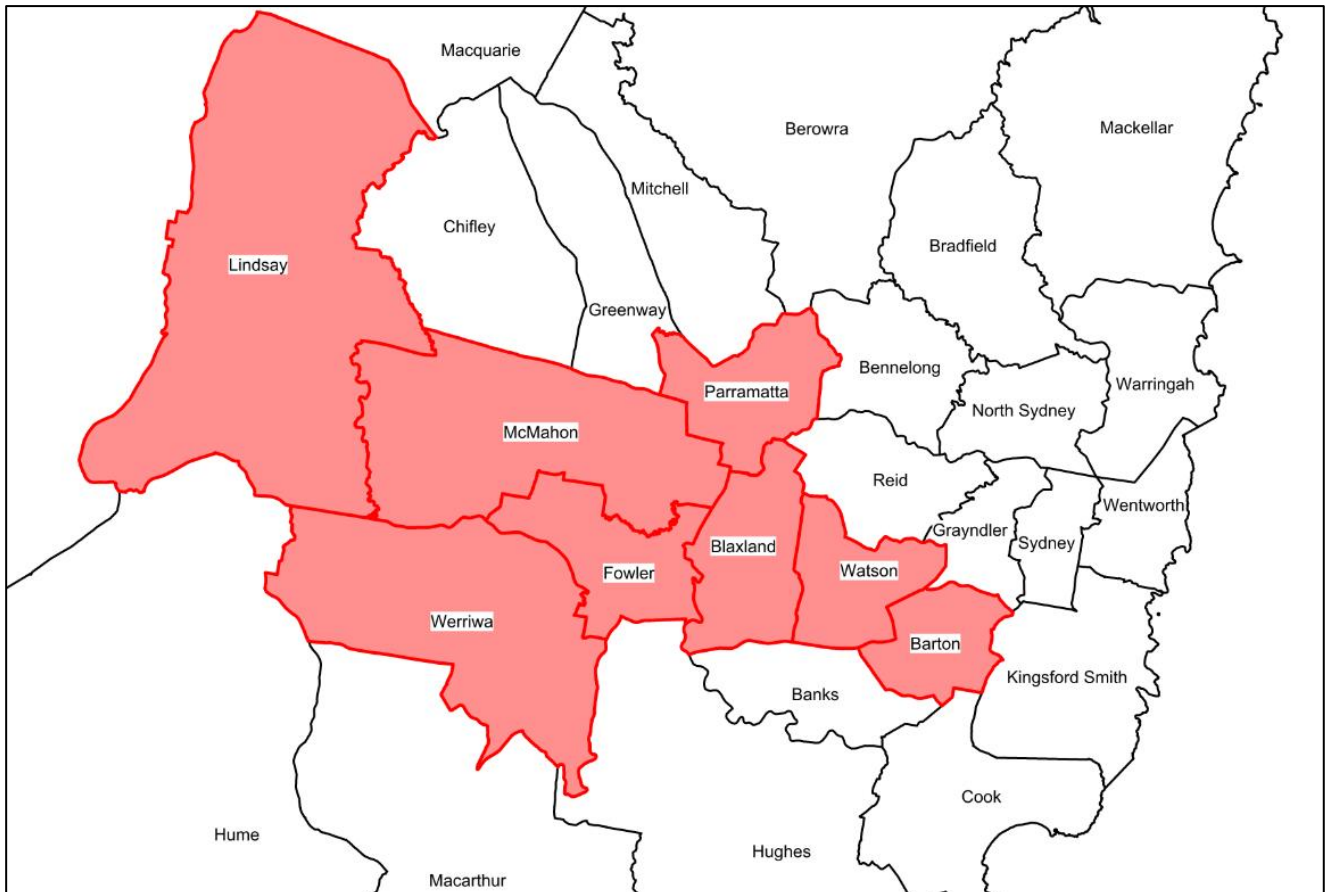
For the first time since the 2001 federal election, not all of the divisions recording the ten highest House of Representatives informality rates were in Sydney. The ten divisions with the highest levels of informal House of Representatives voting in 2016 were:

- Lindsay (11.8 per cent),
- Blaxland (11.6 per cent),
- Watson (10.7 per cent),
- Fowler (10.4 per cent),
- McMahon (9.9 per cent),
- Parramatta (9.3 per cent),
- Murray (8.8 per cent),
- Werriwa (8.8 per cent),
- Longman (8.5 per cent), and
- Barton (8.4 per cent).

Seven of these 'top ten' divisions were also in the top ten divisions with the highest informality rates at the 2013 House of Representatives elections. The remaining three divisions (Lindsay, Murray and Longman) were ranked 14th, 36th and 100th in 2013, respectively.

Figure 4 on page 27 highlights the locations of the Sydney divisions showing the highest levels of informal voting in 2016. Table 7 on page 29 compares the ten divisions with the highest and lowest informality rates in 2016 with results from previous elections for these divisions.

Figure 4. Map highlighting the eight Commonwealth Electoral Divisions in Sydney with the highest informality rates, 2016 House of Representatives elections



(Australian Electoral Commission, 2016f)

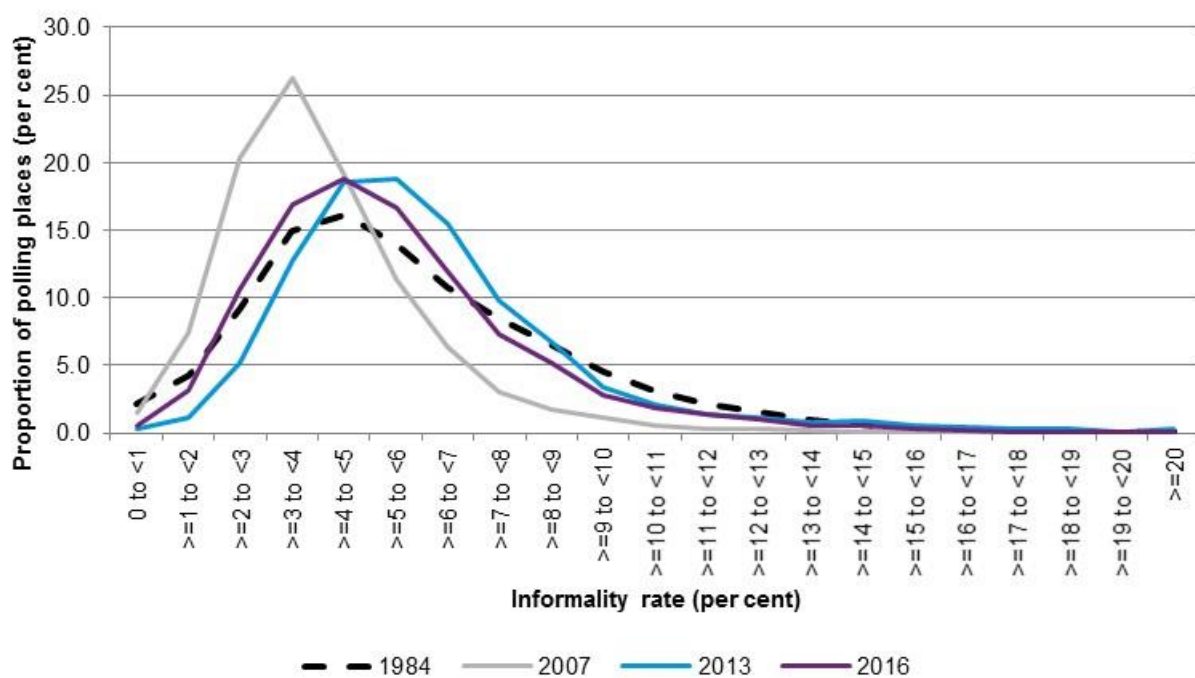
Informality rates by polling place

Figure 5 on page 28 shows the ranges of informality rates recorded in polling places where ordinary votes were cast¹⁸ at the 1984, 2007, 2013 and 2016 House of Representatives elections. This shows that in 2016 almost one in five polling places (18.8 per cent) had informality rates between 4 and 5 per cent. About one in six polling places had informality rates between 3 and 4 per cent (16.9 per cent) or between 5 and 6 per cent (16.6 per cent).

Figures for 2007 and 1984 have been included in the graph as examples of both a low informality election (2007) and a high informality election (1984). In a low informality election we would expect the peak of the curve to be to the left of the graph, with a short, low tail to the right. This indicates that most polling places had low levels of informality. A lower peak occurring further to the right, with a longer, taller right hand tail, indicates that there were more polling places with higher levels of informality.

- Polling place informality rates in 2016 were generally lower than those recorded for 2013. In 2016, just over half of all polling places (50.1 per cent) had informality rates of less than 5 per cent, compared to 37.9 per cent of polling places in 2013.
- The 1984 House of Representatives elections (which recorded the highest overall level of informal voting on record) showed higher proportions of polling places recording informality rates over 7 per cent compared to 2016.
- The 2007 House of Representatives elections (where there was a substantial overall drop in levels of informality) showed substantially higher proportions of polling places with informality rates under 4 per cent than in either 2013 or 2016, and lower proportions with informality rates of 5 per cent or more.

Figure 5. Proportion of polling places where ordinary votes were cast¹⁸ by informality rate, 1984, 2007, 2013 and 2016 House of Representatives elections



(Australian Electoral Commission, 2016c)

Table 7. Informality history of divisions with the highest and lowest levels of informality¹⁹ in 2016, 2001–2016 House of Representatives elections

Division (state/territory)	2001 %	2004 %	2007 %	2010 %	2013 %	2016 %
Divisions with the ten highest informality rates in 2016						
Lindsay (NSW)	6.14	7.45	5.54	8.17	8.21	11.77
Blaxland (NSW)	9.78*	10.70*	9.49*	14.06*	13.67*	11.55
Watson (NSW)	7.52*	9.10*	9.05*	12.80*	13.95*	10.65
Fowler (NSW)	12.75*	9.11*	7.67*	12.83*	13.93*	10.41
McMahon ²⁰ (NSW)	8.99*	9.24*	7.73*	10.84*	11.35*	9.89
Parramatta (NSW)	6.21	8.53*	6.56*	8.65*	10.52*	9.26
Murray (Vic.)	3.53	4.18	5.24	5.83	6.33	8.84
Werriwa (NSW)	8.51*	7.98*	6.53*	10.35*	12.87*	8.76
Longman (Qld)	5.27	5.64	3.47	7.29	5.07	8.53
Barton (NSW)	6.59	6.96	5.56	9.82*	12.04*	8.35
Divisions with the ten lowest informality rates in 2016						
Canberra (ACT)	3.41	3.40	2.26†	4.88	3.94	2.71
Jagajaga (Vic.)	3.64	3.98	2.45†	3.97	3.73†	2.71
Deakin (Vic.)	2.56†	3.06†	2.09†	3.58	4.33	2.66
Tangney (WA)	4.04	4.44	2.73	3.48†	4.17	2.55
Melbourne (Vic.)	3.77	3.27†	2.80	3.62	5.95	2.48
Goldstein (Vic.)	2.77†	3.40	2.42†	3.13†	3.33†	2.46
Ryan (Qld)	2.86†	3.80	2.14†	2.87†	3.25†	2.39
Brisbane (Qld)	3.72	4.22	2.96	3.76	3.88	2.39
Curtin (WA)	3.30	3.52	1.91†	2.93†	3.25†	2.02
Kooyong (Vic.)	2.57†	2.90†	2.10†	2.78†	3.39†	1.99

* Division was also one of the ten highest informality divisions in this year.

† Division was also one of the ten lowest informality divisions in this year.

(Australian Electoral Commission, 2016c)

Categories of informal ballots

Break in series for 2016 IBPS

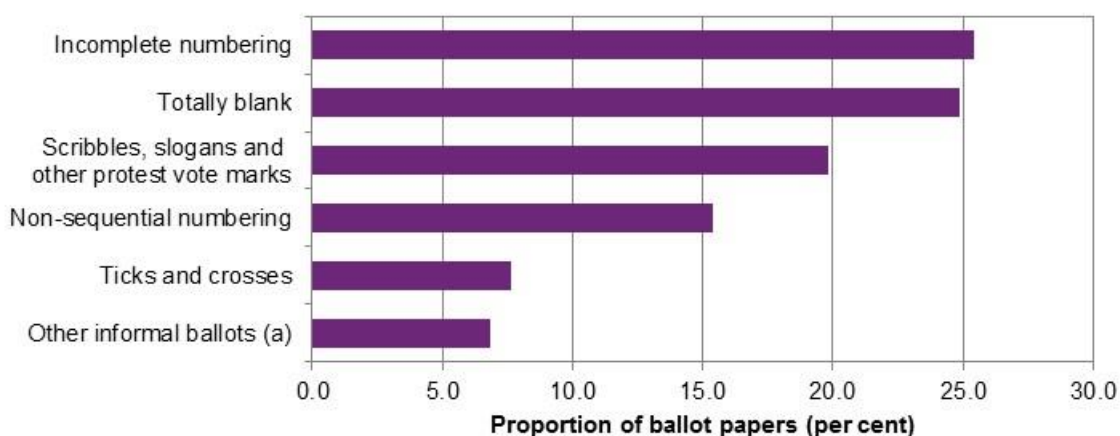
While the names of the broad informality categories have not changed from previous years, figures for 2016 should be regarded as a **break in series** due to the significant methodological improvements implemented for this year (see *Improvements made for the 2016 Informal Ballot Paper Study* on page 10). While some tables in this chapter show figures for the 2001, 2004, 2007, 2010 and 2013 House of Representatives elections, detailed comparisons of 2016 figures with those from previous years are not recommended. The textual analysis in the following paragraphs therefore focuses on the 2016 results

National and state/territory summary

At the national level, more than a quarter of all informal ballots cast (25.4 per cent) showed incomplete numbering. The majority of ballots with incomplete numbering (14.6 per cent of all informal ballots) showed a number '1' only.

A further quarter of all informal ballots (24.9 per cent) were totally blank, while a fifth (19.8 per cent) were informal due to scribbles, slogans or other protest vote marks²¹ and a sixth (15.4 per cent) showed non-sequential numbering. About one in every thirteen informal ballots cast (7.6 per cent) showed ticks or crosses.²² The remaining 6.9 per cent of informal ballots showed other symbols, illegible numbering, voter identification, or were informal for other reasons.

Figure 6. Informal ballot papers by category, 2016 House of Representatives elections



(Australian Electoral Commission, 2018a)

(a) Includes ballots showing other symbols, illegible numbering or voter identification.

Table 8 on page 34 shows the proportions of informal ballot papers in broad informality categories for each state and territory, and nationally, while Table 9 on page 36 shows the equivalent informality rates for these broad informality categories.

Incomplete numbering

The proportion of ballots with incomplete numbering was highest in Queensland (30.4 per cent of all informal ballots), New South Wales (29.9 per cent) and the Northern Territory (24.0 per cent). The lowest proportions of ballots with incomplete numbering were in Tasmania (12.6 per cent), the Australian Capital Territory (15.0 per cent) and South Australia (15.9 per cent).

Nationally, there were 53 divisions (35.3 per cent) where the ballots with incomplete numbering (comprising those with a number '1' only as well as those with other incomplete numbering) were the most common category of informal vote. In a further 24 divisions (16.0 per cent), incomplete numbering was the second most common category, while in the remaining 73 divisions (48.7 per cent) it was the third or fourth most common.

Number '1' only

The proportions of informal ballots with a number '1' only were highest in New South Wales (19.6 per cent), Queensland (15.2 per cent) and the Australian Capital Territory (12.6 per cent), and were lowest in the Northern Territory (6.9 per cent), Victoria (8.7 per cent) and Tasmania (9.1 per cent).

Numbers '1' to '6' only

Larger numbers of candidates within a division are likely to drive up incidences of both incomplete and non-sequential numbering through voters deciding not to finish completing their ballot paper or making an error when allocating their preference sequence. It also appears that some voters may have been confused about the difference in voting requirements between the House of Representatives and Senate at the 2016 federal election, recording preferences '1' to '6' only (in line with the 'above the line' requirements for the Senate) on their House of Representatives ballot paper.

- The potential impact that the number of candidates on the ballot paper has on informality rates is examined in more detail in *Factors influencing informal voting*, commencing on page 53.

The proportion of ballots numbered from '1' to '6' only was highest in Queensland (9.9 per cent of all informal votes cast, the Northern Territory (8.6 per cent) and Victoria (8.4 per cent).

- There were sixteen divisions, where ballots numbered '1' to 6 only accounted for more than a fifth of all informal ballots cast, and four where they accounted for more than a quarter of all informal ballots cast:

- The three divisions with the highest proportions of ballot papers numbered from '1' to '6' only were all located in Queensland:
 - Maranoa (31.0 per cent of all informal votes cast, and 8 candidates on the ballot paper)
 - Flynn (29.6 per cent and 9 candidates)
 - Blair (28.7 per cent and 8 candidates)

Totally blank ballots

The proportion of totally blank ballot papers was highest in Tasmania (31.6 per cent of all informal ballots), the Australian Capital Territory (30.1 per cent) and Western Australia (29.3 per cent) and lowest in the Northern Territory (15.0 per cent), Queensland (21.1 per cent) and Victoria (24.3 per cent).

Nationally, there were 68 divisions (45.3 per cent) where blank ballots were the most common category of informal vote. It was the second most common category in a further 51 divisions (34.0 per cent) and the third or fourth most common category in the remaining 31 divisions (20.7 per cent).

Scribbles, slogans and other protest vote marks

The proportion of ballots that were informal due to scribbles, slogans or other protest vote marks was highest in the Australian Capital Territory (34.1 per cent), Tasmania (30.9 per cent) and Western Australia (26.0 per cent), and lowest in the Northern Territory (14.6 per cent), New South Wales (16.2 per cent) and Queensland (20.8 per cent).

Nationally, there were 22 divisions (14.7 per cent) where scribbles, slogans or protest vote marks was the most common category of informal vote. It was the second most common category in 53 divisions (35.3 per cent), the third most common in 37 divisions (24.7 per cent) and the fourth most common in 38 divisions (25.3 per cent).

Non-sequential numbering

Non-sequential numbering on a ballot paper can indicate numbering errors on the part of the voter, but can also represent a deliberate choice (for example, where a voter has repeated numbers in an attempt to avoid assigning preferences to all candidates²³).

The proportion of ballots with non-sequential numbering was highest in the Northern Territory (35.7 per cent of all informal ballots), Victoria (20.3 per cent) and South Australia (18.0 per cent). It was lowest in the Australian Capital Territory (7.0 per cent), Western Australia (11.7 per cent) and New South Wales (12.5 per cent).

Nationally, there were 7 divisions (4.7 per cent) where non-sequential numbering was the most common category of informal ballot. It was the second most common division in 22 divisions (14.7 per cent), the third most common in 38 divisions (25.3 per cent) and the fourth most common in 53

divisions (35.3 per cent). Non-sequential numbering was either the fifth or sixth most common category for the remaining 30 divisions (20.0 per cent).

Ticks and crosses

The proportion of ballots showing ticks and crosses²² was highest in New South Wales and Western Australia (both 9.6 per cent), followed by South Australia (8.3 per cent). It was lowest in the Northern Territory (3.8 per cent), Tasmania (3.9 per cent) and Queensland (5.5 per cent).

Nationally, there were no divisions where ticks and crosses were either the most common or second most common informality category. Instead, there were 10 divisions (6.7 per cent) where ticks and crosses were the third most common category, 20 divisions (13.3 per cent) where it was the fourth most common category and 97 divisions (64.7 per cent) where it was the fifth most common category. In the remaining 23 divisions (15.3 per cent), ticks and crosses were the sixth, seventh or eighth most common informality category.

Other informal ballots

Nationally, 1.5 per cent of all informal ballots had other symbols, while 2.7 per cent had illegible numbering²⁴ and 2.6 per cent were in the 'other' informality category. A very small number of ballots (117 nationwide, or 0.02 per cent) were informal because they appeared to identify the voter.

Categories of informal ballots by state and territory

Table 8 on page 34 shows the proportions of informal ballot papers in broad informality categories²⁵ for each state and territory, and nationally. Table 9 on page 36 shows the equivalent informality rates for these broad categories.

A more detailed breakdown of the numbers of ballot papers within each broad informality category in 2016 is provided at Appendix D on page 86. Divisional summaries providing counts and proportions by broad informality category for each Commonwealth electoral division will be made available as separate reports.

Table 8. Proportion of total informal votes by category and state/territory, 2001–2016
House of Representatives elections²⁶

Category	NSW %	Vic. ²⁷ %	Qld %	WA %	SA %	Tas. %	ACT %	NT %	Total %
Totally blank									
2001	20.4	25.0	15.7	23.4	24.5	27.9	30.8	20.7	21.4
2004	21.2	24.2	15.2	22.9	23.2	28.2	23.6	18.8	21.1
2007	18.2	22.3	15.4	23.5	26.9	29.3	25.8	15.0	20.0
2010	27.0	31.9	26.5	31.7	32.4	34.1	29.9	25.8	28.9
2013	19.5	22.5	16.5	24.7	28.1	26.4	26.5	17.9	20.9
2016	25.3	24.3	21.1	29.3	28.5	31.6	30.1	15.0	24.9
Incomplete numbering – number ‘1’ only									
2001	32.5	26.1	46.4	29.9	36.6	23.6	28.8	28.0	33.6
2004	35.7	21.8	44.6	25.3	30.9	22.4	35.6	27.7	32.8
2007	36.2	21.6	36.4	18.0	24.3	17.3	25.9	24.7	30.1
2010	31.8	20.7	32.2	22.6	23.2	18.8	27.2	19.7	27.8
2013	36.8	16.9	35.5	20.8	24.5	18.4	31.2	17.2	29.4
2016	19.6	8.7	15.2	12.1	9.9	9.1	12.6	6.9	14.6
Incomplete numbering – other									
2001 ⁷	..	..	..	..	..	..	..	..	..
2004	5.2	3.1	4.6	5.0	3.0	2.8	3.1	3.7	4.4
2007	5.3	2.9	5.3	4.6	3.3	4.5	3.1	3.6	4.5
2010	3.3	1.8	2.4	2.5	2.3	1.2	0.8	4.7	2.6
2013	6.7	7.0	7.6	8.0	3.0	6.7	5.6	12.3	6.8
2016	10.3	12.3	15.2	4.4	6.0	3.5	2.4	17.2	10.8
Ticks and crosses									
2001	12.6	13.0	11.5	9.9	15.2	15.8	9.0	10.6	12.4
2004	10.7	7.4	7.4	9.2	11.7	11.4	8.8	9.0	9.3
2007	11.0	8.1	9.4	8.3	12.8	7.2	10.2	15.2	9.9
2010	13.8	9.1	9.9	11.6	12.8	10.4	14.0	12.8	11.8
2013	12.6	6.3	10.4	11.3	13.8	8.1	0.8	6.7	10.5
2016	9.6	5.6	5.5	9.6	8.3	3.9	7.3	3.8	7.6
Non-sequential numbering									
2001 ¹⁰	24.9	17.4	12.5	25.9	14.7	20.1	8.5	29.6	19.9
2004	15.3	20.4	9.8	19.3	14.1	8.2	4.9	19.9	15.4
2007	15.8	21.7	15.2	26.3	15.9	15.0	9.9	24.4	17.9
2010	9.9	10.9	5.2	10.5	11.1	4.8	2.5	17.6	9.2
2013	10.8	23.7	13.4	13.6	8.6	14.0	7.9	29.1	14.4
2016	12.5	20.3	15.3	11.7	18.0	14.2	7.0	35.7	15.4

Category	NSW %	Vic. ²⁷ %	Qld %	WA %	SA %	Tas. %	ACT %	NT %	Total %
Scribbles, slogans and other protest vote marks									
2001 ¹¹	5.5	8.2	4.9	7.8	6.6	12.1	4.2	3.0	6.4
2004	9.6	20.1	15.6	15.9	13.7	24.7	20.2	15.6	14.3
2007	10.7	18.9	15.0	15.6	14.3	24.0	22.3	9.6	14.2
2010	12.0	21.7	21.0	17.0	15.5	27.7	22.6	16.7	16.9
2013	11.1	18.5	13.4	16.9	18.3	22.4	26.8	9.6	14.5
2016	16.2	21.4	20.8	26.0	22.1	30.9	34.1	14.6	19.8
Voter identified									
2001	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
2004	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0
2007	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.2	0.1
2010	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
2013	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
2016	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other²⁸									
2001	4.1	10.3	9.0	3.0	2.4	0.5	18.7	8.1	6.2
2004	2.3	3.0	2.7	2.4	3.3	2.3	3.9	5.4	2.6
2007	2.8	4.3	3.4	3.5	2.5	2.7	2.7	7.3	3.3
2010	2.2	3.9	2.7	4.0	2.6	3.0	3.0	2.7	2.9
2013	2.5	5.0	3.0	4.7	3.7	3.9	1.1	7.2	3.5
2016	6.5	7.3	6.8	7.1	7.2	6.9	6.5	6.9	6.8
Total									
2001	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2004	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2007	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2010	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2013	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2016	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(Australian Electoral Commission, 2016a; 2018a)

Table 9. Informality rates by category and state/territory, 2001–2016 House of Representatives elections²⁶

Category	NSW %	Vic. ²⁷ %	Qld %	WA %	SA %	Tas. %	ACT %	NT %	Total %
Totally blank									
2001	1.11	0.99	0.76	1.15	1.36	0.95	1.08	0.96	1.03
2004	1.30	0.99	0.79	1.22	1.29	1.01	0.81	0.83	1.10
2007	0.90	0.73	0.55	0.91	1.02	0.86	0.60	0.58	0.79
2010	1.84	1.43	1.45	1.53	1.77	1.38	1.39	1.60	1.60
2013	1.48	1.17	0.85	1.33	1.36	1.07	1.02	1.13	1.23
2016	1.56	1.16	0.99	1.17	1.19	1.26	0.83	1.10	1.26
Incomplete numbering – number ‘1’ only									
2001	1.76	1.04	2.24	1.47	2.03	0.80	1.01	1.30	1.62
2004	2.18	0.89	2.30	1.34	1.72	0.80	1.22	1.23	1.70
2007	1.79	0.70	1.29	0.69	0.92	0.51	0.60	0.95	1.19
2010	2.17	0.93	1.75	1.09	1.27	0.76	1.27	1.22	1.54
2013	2.79	0.88	1.82	1.12	1.19	0.74	1.20	1.08	1.74
2016	1.21	0.41	0.72	0.48	0.41	0.36	0.35	0.50	0.74
Incomplete numbering – other									
2001 ⁷	..	..	..	..	..	..	..	..	..
2004	0.32	0.13	0.24	0.26	0.17	0.10	0.11	0.17	0.23
2007	0.26	0.10	0.19	0.18	0.12	0.13	0.07	0.14	0.18
2010	0.22	0.08	0.13	0.12	0.13	0.05	0.04	0.29	0.14
2013	0.51	0.36	0.39	0.43	0.14	0.27	0.21	0.78	0.40
2016	0.64	0.59	0.71	0.17	0.25	0.14	0.07	1.26	0.55
Ticks and crosses									
2001	0.68	0.52	0.55	0.49	0.84	0.54	0.32	0.49	0.60
2004	0.66	0.30	0.38	0.49	0.65	0.41	0.30	0.40	0.48
2007	0.54	0.26	0.33	0.32	0.48	0.21	0.24	0.59	0.39
2010	0.94	0.41	0.54	0.56	0.70	0.42	0.65	0.79	0.65
2013	0.95	0.33	0.54	0.61	0.67	0.33	0.03	0.42	0.62
2016	0.59	0.27	0.26	0.38	0.35	0.15	0.20	0.28	0.39
Non-sequential numbering									
2001 ¹⁰	1.35	0.69	0.60	1.28	0.82	0.68	0.30	1.37	0.96
2004	0.94	0.84	0.51	1.03	0.79	0.29	0.17	0.88	0.79
2007	0.78	0.71	0.54	1.01	0.60	0.44	0.23	0.94	0.71
2010	0.68	0.49	0.28	0.51	0.61	0.19	0.12	1.09	0.51
2013	0.82	1.23	0.69	0.73	0.42	0.57	0.30	1.83	0.85
2016	0.77	0.97	0.72	0.47	0.75	0.56	0.19	2.63	0.78

Category	NSW %	Vic. ²⁷ %	Qld %	WA %	SA %	Tas. %	ACT %	NT %	Total %
Scribbles, slogans and other protest vote marks									
2001 ¹¹	0.30	0.33	0.24	0.38	0.36	0.41	0.15	0.14	0.31
2004	0.59	0.83	0.81	0.85	0.76	0.89	0.70	0.69	0.74
2007	0.53	0.62	0.53	0.60	0.54	0.70	0.52	0.37	0.56
2010	0.82	0.98	1.14	0.82	0.85	1.12	1.05	1.03	0.94
2013	0.84	0.96	0.69	0.91	0.89	0.90	1.03	0.61	0.86
2016	1.00	1.02	0.98	1.04	0.92	1.23	0.94	1.07	1.00
Voter identified									
2001	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
2004	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2007	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
2010	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other²⁸									
2001	0.22	0.41	0.44	0.15	0.13	0.02	0.66	0.38	0.30
2004	0.14	0.12	0.14	0.13	0.18	0.08	0.13	0.24	0.14
2007	0.14	0.14	0.12	0.14	0.09	0.08	0.06	0.28	0.13
2010	0.15	0.17	0.15	0.19	0.14	0.12	0.14	0.17	0.16
2013	0.19	0.26	0.16	0.25	0.18	0.16	0.04	0.45	0.20
2016	0.40	0.35	0.32	0.28	0.30	0.28	0.18	0.51	0.35
Total									
2001	5.42	3.98	4.83	4.92	5.54	3.40	3.52	4.64	4.82
2004	6.12	4.10	5.16	5.32	5.56	3.59	3.44	4.45	5.18
2007	4.95	3.25	3.56	3.85	3.78	2.92	2.31	3.85	3.95
2010	6.83	4.50	5.45	4.82	5.46	4.04	4.66	6.19	5.55
2013	7.59	5.19	5.13	5.38	4.85	4.04	3.83	6.30	5.91
2016	6.17	4.77	4.70	3.99	4.18	3.98	2.76	7.35	5.05

(Australian Electoral Commission, 2016a; 2018a)

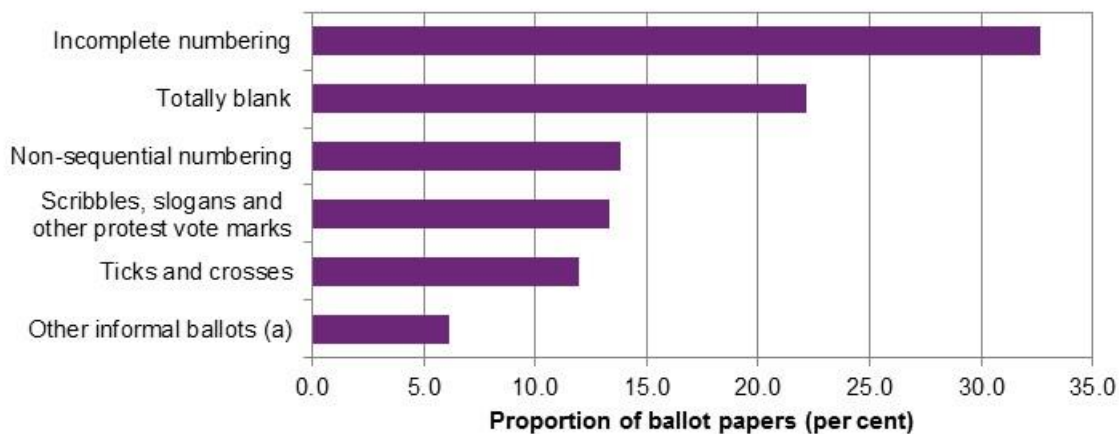
Categories of informal ballots in high informality divisions

Table 10 on page 41 shows the proportions of informal ballot papers in broad informality categories²⁵ for of the ten divisions with the highest informality rates at the 2016 House of Representatives elections. Table 11 on page 43 shows the equivalent informality rates for these broad categories.

Among the ten divisions with the highest rates of informal voting, the most common categories of informal ballots were:

- Ballots with incomplete numbering (32.7 per cent of all informal votes cast),
- Totally blank ballots (22.1 per cent),
- Ballots with non-sequential numbering (13.8 per cent), and
- Ballots with scribbles, slogans or other protest vote marks (13.3 per cent).

Figure 7. Informal ballot papers by category, 2016 House of Representatives elections: ten divisions with the highest informality rates



(Australian Electoral Commission, 2018a)

(a) Includes ballots showing other symbols, illegible numbering or voter identification.

Numbers of informal ballot papers for the 2016 House of Representatives elections, by category and by thousands. In order of largest to smallest numbers, ballot papers with: incomplete numbering; totally blank ballots; scribbles, slogans and other protest vote marks; non-sequential numbering; ticks and crosses; all other informal ballot papers.

Incomplete numbering

For nine out of the ten divisions with the highest informality rates in 2016 (all other than Murray), the most common category of informal ballot was incomplete numbering. The highest proportions of ballots with incomplete numbering were in the Divisions of Parramatta (42.0 per cent), Longman (38.5 per cent) and Lindsay (38.1 per cent).

Number '1' only

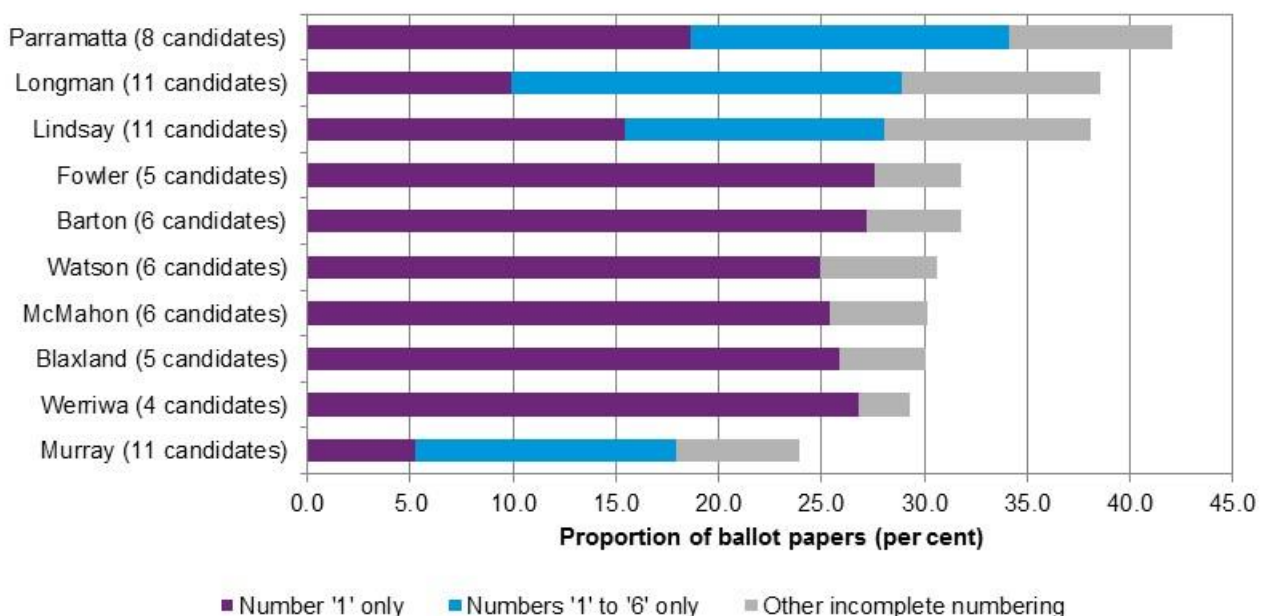
Among the top ten divisions, the proportion of ballot papers with a number '1' only was highest in the Divisions of Fowler (27.6 per cent), Barton (27.2 per cent) and Werriwa (26.8 per cent), and was lowest in the Divisions of Murray (5.2 per cent), Longman (9.9 per cent) and Lindsay (15.4 per cent).

Numbers '1' to '6' only

There were four divisions among the top ten where a ballot paper numbered '1' to '6' only was an informal vote (that is, where the division had eight or more candidates). As noted on page 31, it is possible that the numbers of candidates on the ballot paper and voter confusion about the difference between House of Representatives and Senate voting requirements may have contributed to this informality category.

- The Divisions of Lindsay, Longman and Murray each had 11 candidates, while the division of Parramatta had 8 candidates.
 - 12.6 per cent of all informal votes cast in Lindsay were numbered '1' to '6' only, compared with 18.9 per cent in Longman, 12.7 per cent in Murray and 15.5 per cent in Parramatta.
- For the three divisions among the top ten where the total informality rate increased in 2016 (Lindsay, Longman and Murray), it appears that ballot papers numbered '1' to '6' only were a significant driver of this increase.
- The impact of candidate numbers on both incomplete and non-sequential numbering is analysed in *Number of candidates*, commencing on page 62.

Figure 8. Proportion of ballots with incomplete numbering, 2016 House of Representatives elections: ten divisions with the highest informality rates



(Australian Electoral Commission, 2018a)

Totally blank ballots

More than one in five informal ballots cast among the top ten divisions (22.1 per cent) was totally blank. The highest proportions of blank ballots were in Watson (27.8 per cent of all informal votes), Blaxland (26.5 per cent) and McMahon (25.8 per cent).

In seven of the top ten divisions, blank ballots were the second most commonly found broad informality category (behind incomplete numbering). In the remaining three (the divisions of Lindsay, Murray and Longman) blank ballots were the third most commonly reported broad category.

Non-sequential numbering

About one in every three informal ballot papers cast in the division of Murray (33.7 per cent) showed non-sequential numbering, and it was the most commonly recorded broad informality category in this division. The next highest proportions were in Longman (26.2 per cent) and Lindsay (19.3 per cent), where non-sequential numbering was the second most frequently reported category (behind incomplete numbering).

- While it is not possible to determine how many of the non-sequential ballots in Murray, Longman or Lindsay represent genuine numbering errors by voters, the fact that each of these three divisions had 11 candidates could mean errors were more likely to occur.

Scribbles, slogans and other protest vote marks

About one in every seven informal ballot papers cast in the top ten divisions (13.3 per cent) showed scribbles, slogans or other protest vote marks. The highest proportions of ballot papers with scribbles, slogans or other protest vote marks were in Werriwa (16.3 per cent of all informal votes cast), Barton (15.9 per cent) and McMahon (14.7 per cent).

- Scribbles, slogans and other protest vote marks were the third most commonly recorded category in the Division of Barton (behind incomplete numbering and totally blank ballots) and the fourth most commonly recorded category in Werriwa and McMahon (behind incomplete numbering, totally blank ballots and ballots with ticks and crosses).

Table 10. Proportion of informal votes by category²⁶ in the highest informality divisions²⁹, 2001–2016 House of Representatives elections

Category	Lindsay (NSW) %	Blaxland (NSW) %	Watson (NSW) %	Fowler (NSW) %	McMahon ²⁰ (NSW) %	Parramatta (NSW) %	Murray (Vic.) %	Werriwa (NSW) %	Longman (Qld) %	Barton (NSW) %
Totally blank										
2001	24.8	22.1	24.8	15.8	19.9	17.1	22.7	17.6	13.6	19.0
2004	21.6	22.7	21.6	19.7	19.4	17.9	20.4	20.9	14.2	20.2
2007	22.1	19.0	16.6	14.6	18.4	18.8	14.9	19.1	17.7	19.5
2010	26.8	27.9	26.2	24.5	24.7	24.3	28.8	28.0	28.4	22.2
2013	20.2	21.0	16.5	15.1	15.7	16.8	21.8	17.4	16.7	16.6
2016	18.9	26.5	27.8	20.6	25.8	19.3	19.4	24.1	14.4	23.6
Incomplete numbering – number '1' only										
2001	30.1	28.4	31.9	28.4	28.5	40.6	27.3	34.6	47.8	29.5
2004	38.1	32.3	32.7	36.6	37.2	34.8	23.4	36.9	51.3	41.2
2007	31.8	34.5	46.2	42.6	34.8	30.6	14.6	41.8	36.7	41.3
2010	32.7	29.6	38.6	36.8	34.1	31.5	15.7	33.5	23.1	42.8
2013	36.5	36.6	41.3	44.9	44.4	38.9	14.8	39.8	33.9	39.6
2016	15.4	25.9	25.0	27.6	25.4	18.6	5.2	26.8	9.9	27.2
Incomplete numbering – other										
2001 ⁷	..	..	..	..	..	..	..	..	..	..
2004	5.6	5.6	6.0	2.0	4.0	9.1	3.7	4.7	3.2	2.0
2007	4.8	7.6	5.3	2.0	3.3	11.2	3.5	4.2	3.6	2.0
2010	3.3	5.2	1.4	1.2	1.5	6.2	2.1	0.0	4.2	0.0
2013	5.7	7.2	6.7	5.6	3.7	9.6	6.6	9.4	6.6	8.8
2016	22.7	4.2	5.6	4.2	4.8	23.4	18.7	2.5	28.6	4.6
Ticks and crosses										
2001	6.5	14.2	18.7	14.8	17.0	13.0	14.8	14.3	8.5	16.7
2004	9.4	13.2	15.5	18.7	15.2	8.1	8.0	14.6	9.4	17.5
2007	9.2	10.9	10.1	21.5	19.1	7.6	4.8	13.3	9.8	20.1
2010	12.8	12.0	16.7	20.9	22.5	14.8	6.5	18.8	5.6	16.6
2013	14.3	14.2	13.5	18.6	18.7	15.1	4.3	13.6	9.3	13.8
2016	4.9	16.4	14.0	19.0	15.8	10.9	2.4	19.9	2.5	13.5
Non-sequential numbering										
2001 ¹⁰	33.8	29.1	20.3	2.4	28.0	17.9	18.7	14.4	12.7	26.8
2004	14.9	19.4	9.7	12.7	8.4	21.2	25.0	11.8	5.0	11.2
2007	18.0	15.0	7.8	6.5	11.2	20.7	42.1	10.3	10.2	10.0
2010	12.6	12.4	3.8	4.1	4.6	10.8	20.1	3.2	13.2	2.7
2013	10.5	7.4	10.3	6.9	4.5	8.0	36.4	8.0	15.1	10.4
2016	19.3	7.6	8.2	11.2	8.3	10.2	33.7	5.7	26.2	9.0

Category	Lindsay (NSW) %	Blaxland (NSW) %	Watson (NSW) %	Fowler (NSW) %	McMahon ²⁰ (NSW) %	Parramatta (NSW) %	Murray (Vic.) %	Werriwa (NSW) %	Longman (Qld) %	Barton (NSW) %
Scribbles, slogans and other protest vote marks										
2001 ¹¹	4.0	6.0	4.2	4.1	6.0	4.7	6.8	19.0	5.8	4.9
2004	8.4	5.1	6.1	9.9	13.6	5.8	15.6	10.4	15.6	5.9
2007	9.9	10.0	10.7	11.0	8.9	9.2	13.5	10.4	18.7	4.9
2010	9.9	9.7	10.4	10.6	11.2	9.5	18.0	15.2	22.1	14.8
2013	11.2	10.0	9.2	5.9	8.6	8.2	13.1	9.6	16.5	9.3
2016	10.8	14.3	13.2	12.0	14.7	10.6	13.5	16.3	12.6	15.9
Voter identification										
2001	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.0
2004	0.1	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.1	0.0
2007	0.4	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2010	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2013	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
2016	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other²⁸										
2001	0.7	0.0	0.1	34.3	0.5	6.6	9.6	0.1	11.5	3.0
2004	1.9	1.6	8.3	0.4	2.1	3.0	3.9	0.7	1.0	1.9
2007	3.6	2.9	3.2	1.7	4.4	1.8	6.6	0.8	3.3	2.1
2010	1.9	3.1	2.9	2.0	1.4	3.0	8.8	1.3	3.5	1.0
2013	1.7	3.6	2.5	3.0	4.4	3.4	2.9	2.2	1.9	1.6
2016	8.0	5.2	6.1	5.4	5.2	6.9	7.0	4.8	5.8	6.3
Total										
2001	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2004	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2007	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2010	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2013	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2016	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(Australian Electoral Commission, 2003a; 2005b; 2009c; 2011a; 2016d; 2018)

**Table 11. Informality rates by category²⁶ in the highest informality divisions²⁹,
2001–2016 House of Representatives elections**

Category	Lindsay (NSW) %	Blaxland (NSW) %	Watson (NSW) %	Fowler (NSW) %	McMahon ²⁰ (NSW) %	Parramatta (NSW) %	Murray (Vic.) %	Werriwa (NSW) %	Longman (Qld) %	Barton (NSW) %
Totally blank										
2001	1.52	2.16	1.86	2.02	1.79	1.06	0.80	1.50	0.72	1.25
2004	1.61	2.43	1.96	1.80	1.80	1.53	0.85	1.67	0.80	1.41
2007	1.23	1.81	1.50	1.12	1.43	1.23	0.78	1.25	0.61	1.09
2010	2.19	3.92	3.36	3.14	2.68	2.10	1.68	2.89	2.07	2.18
2013	1.66	2.87	2.30	2.10	1.78	1.76	1.38	2.25	0.85	2.00
2016	2.23	3.06	2.96	2.14	2.55	1.78	1.72	2.11	1.23	1.97
Incomplete numbering – number '1' only										
2001	1.85	2.78	2.40	3.63	2.57	2.52	0.96	2.94	2.52	1.95
2004	2.84	3.46	2.98	3.33	3.44	2.97	0.98	2.94	2.89	2.87
2007	1.76	3.28	4.18	3.27	2.69	2.01	0.77	2.73	1.27	2.30
2010	2.67	4.16	4.94	4.72	3.70	2.73	0.92	3.46	1.68	4.20
2013	3.00	5.00	5.76	6.26	5.04	4.09	0.94	5.13	1.72	4.77
2016	1.82	2.99	2.66	2.87	2.51	1.72	0.46	2.35	0.85	2.27
Incomplete numbering – other										
2001 ⁷	..	..	..	..	..	..	..	..	..	..
2004	0.42	0.60	0.54	0.18	0.37	0.78	0.15	0.37	0.18	0.14
2007	0.27	0.72	0.48	0.16	0.25	0.74	0.19	0.28	0.12	0.11
2010	0.27	0.73	0.18	0.15	0.16	0.54	0.12	0.00	0.30	0.00
2013	0.47	0.99	0.94	0.78	0.42	1.01	0.41	1.21	0.33	1.06
2016	2.67	0.48	0.60	0.44	0.47	2.17	1.65	0.22	2.44	0.38
Ticks and crosses										
2001	0.40	1.39	1.40	1.89	1.53	0.81	0.52	1.21	0.45	1.10
2004	0.70	1.41	1.41	1.70	1.40	0.70	0.33	1.17	0.53	1.22
2007	0.51	1.03	0.91	1.65	1.48	0.50	0.25	0.87	0.34	1.12
2010	1.05	1.69	2.14	2.68	2.44	1.28	0.38	1.95	0.41	1.63
2013	1.17	1.94	1.88	2.59	2.12	1.59	0.27	1.75	0.47	1.66
2016	0.58	1.90	1.50	1.98	1.56	1.01	0.21	1.74	0.21	1.13
Non-sequential numbering										
2001 ¹⁰	2.08	2.85	1.53	0.30	2.52	1.11	0.66	1.22	0.67	1.77
2004	1.11	2.07	0.89	1.16	0.78	1.81	1.04	0.94	0.28	0.78
2007	1.00	1.43	0.71	0.50	0.86	1.36	2.21	0.68	0.35	0.55
2010	1.03	1.74	0.48	0.52	0.50	0.93	1.17	0.33	0.96	0.26
2013	0.86	1.01	1.44	0.96	0.51	0.84	2.30	1.03	0.76	1.25
2016	2.27	0.87	0.87	1.16	0.82	0.95	2.97	0.50	2.24	0.75

Category	Lindsay (NSW) %	Blaxland (NSW) %	Watson (NSW) %	Fowler (NSW) %	McMahon ²⁰ (NSW) %	Parramatta (NSW) %	Murray (Vic.) %	Werriwa (NSW) %	Longman (Qld) %	Barton (NSW) %
Scribbles, slogans and other protest vote marks										
2001 ¹¹	0.25	0.59	0.32	0.53	0.54	0.29	0.24	1.62	0.30	0.33
2004	0.62	0.55	0.55	0.90	1.26	0.49	0.65	0.83	0.88	0.41
2007	0.55	0.95	0.97	0.84	0.69	0.61	0.71	0.68	0.65	0.27
2010	0.81	1.37	1.33	1.36	1.21	0.82	1.05	1.57	1.61	1.45
2013	0.92	1.37	1.28	0.82	0.97	0.86	0.83	1.23	0.84	1.12
2016	1.27	1.65	1.41	1.25	1.45	0.98	1.20	1.43	1.08	1.33
Voter identification										
2001	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.00
2004	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.01	0.00
2007	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2010	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other²⁸										
2001	0.04	0.00	0.01	4.39	0.04	0.41	0.34	0.01	0.61	0.19
2004	0.14	0.17	0.75	0.04	0.19	0.25	0.16	0.06	0.06	0.13
2007	0.20	0.28	0.29	0.13	0.34	0.12	0.35	0.05	0.11	0.12
2010	0.15	0.44	0.37	0.25	0.15	0.26	0.51	0.14	0.25	0.10
2013	0.14	0.49	0.34	0.41	0.50	0.35	0.19	0.28	0.10	0.19
2016	0.94	0.60	0.65	0.56	0.52	0.64	0.62	0.42	0.49	0.52
Total										
2001	6.14	9.78	7.52	12.76	8.99	6.21	3.53	8.51	5.27	6.59
2004	7.45	10.70	9.10	9.11	9.24	8.53	4.18	7.98	5.64	6.96
2007	5.54	9.49	9.05	7.67	7.73	6.56	5.24	6.53	3.47	5.56
2010	8.17	14.06	12.80	12.83	10.84	8.65	5.83	10.35	7.29	9.82
2013	8.21	13.67	13.95	13.93	11.35	10.52	6.33	12.87	5.07	12.04
2016	11.77	11.55	10.65	10.41	9.89	9.26	8.84	8.76	8.53	8.35

(Australian Electoral Commission, 2003a; 2005b; 2009c; 2011a; 2016d; 2018)

Assumed unintentional and intentional informality

Some of the electors who have cast informal votes will have done so by error, some because of a lack of understanding of the system, and some will have done so intentionally. Knowing which of these causes is more prevalent in a given area is important for two reasons. Firstly, it helps in the design of policies, programs and, potentially, legislation to address formality. Secondly it provides some indication of engagement with the electoral system.

However, the characteristics of an informal ballot do not necessarily convey the intent of the voter. While some categories of informal ballots (such as totally blank ballots or those with scribbles, slogans or other protest vote marks) may be more frequently associated with a clear intention to cast an informal vote, other categories (such as those with incomplete numbering, non-sequential numbering or ticks and crosses) may include voters who intended to vote formally as well as those who intended to cast an informal vote.

Even blank ballot papers may reflect a variety of intentions – while some voters make a deliberate choice to place a blank ballot paper in the ballot box (perhaps to express dissatisfaction with all candidates on that paper), other voters may place a blank ballot in the box due to linguistic difficulties or a lack of understanding of the electoral system.

As it is not possible to determine the true intent of voters from the characteristics of informal ballot papers, the analysis in this report refers to *assumed unintentional* and *assumed intentional* informality.

Definitions

Apart from a change to the treatment of ballot papers relating to incorrect divisions², the definitions of ballots assumed to be unintentionally or intentionally informal in the 2016 IBPS are the same as those used in the 2013 IBPS. That is, ballot papers are assumed to be unintentionally informal if they showed a clear first preference. Ballot papers with no clear first preference are assumed to be intentionally informal.

Prior to the 2013 IBPS, only those ballot papers with incomplete numbering, non-sequential numbering, ticks and crosses and those where the voter had been identified were assumed to be unintentionally informal. All other informal ballot papers (including those with illegible numbering or other symbols such as Yes/No indicators, where a clear first preference may have been evident) were assumed to be intentionally informal.

While it is possible to create estimates from the 2016 and 2013 IBPSs using the old definition of unintentional/intentional informality (noting that figures prior to 2013 are not strictly comparable due to major changes in informality categories and IBPS processes), it is not possible to create estimates

from the 2010 and earlier IBPSs using the current definitions of unintentional and intentional informality.

National and state/territory summary

Less than half of all informal votes cast at the 2016 House of Representatives elections (343,329 ballots, or 47.6 per cent) were assumed to be unintentionally informal because they showed a clear first preference. The remaining 377,586 ballots (52.4 per cent) did not show a clear first preference and were therefore assumed to be intentionally informal.

Of those ballots in 2016 assumed to be unintentionally informal:

- 183,183 (53.4 per cent) had incomplete numbering,
- 84,960 (24.7 per cent) had non-sequential numbering,
- 48,444 (14.1 per cent) had ticks and crosses, and
- 26,742 (7.8 per cent) had other symbols, illegible numbering, voter identification or were otherwise informal.

Of those ballots in 2016 assumed to be intentionally informal:

- 179,243 (47.5 per cent) were totally blank,
- 142,933 (37.9 per cent) had scribbles, slogans and other protest vote marks, and
- 55,410 (14.7 per cent) had ticks and crosses, other symbols, non-sequential numbering, illegible numbering or were otherwise informal.

While methodological changes introduced for the 2016 IBPS mean that direct comparisons with previous elections are not advised, Table 12 on page 47 provides a national summary of assumed unintentional and assumed intentional informal voting by category at both the 2013 and 2016 House of Representatives elections.

As shown in Table 13 on page 48, the highest proportions of ballot papers assumed to be unintentionally informal were in the Northern Territory (60.6 per cent), Queensland (51.8 per cent) and New South Wales (51.4 per cent). The highest proportions of ballot papers assumed to be intentionally informal were in the Australian Capital Territory (73.1 per cent), Tasmania (69.2 per cent) and Western Australia (63.4 per cent).

Table 12. Assumed unintentional and intentional informal voting by category, 2013–2016 House of Representatives elections

Category	Number		Proportion		Informality rate	
	2013 no.	2016 no.	2013 %	2016 %	2013 %	2016 %
Assumed unintentional informality (clear first preference)						
Incomplete numbering	293,990	183,183	36.2	25.4	2.14	1.28
<i>Number '1' only</i>	238,691	105,093	29.4	14.6	1.74	0.74
<i>Other incomplete numbering</i>	55,299	78,090	6.8	10.8	0.40	0.55
Ticks and crosses	75,773	48,444	9.3	6.7	0.55	0.34
Other symbols	4,142	9,458	0.5	1.3	0.03	0.07
Non-sequential numbering	91,277	84,960	11.3	11.8	0.66	0.60
Illegible numbering	3,817	12,083	0.5	1.7	0.03	0.08
Voter identified	205	117	0.0	0.0	0.00	0.00
Other	6,089	5,084	0.8	0.7	0.04	0.04
<i>Total</i>	<i>475,293</i>	<i>343,329</i>	<i>58.6</i>	<i>47.6</i>	<i>3.46</i>	<i>2.41</i>
Assumed intentional informality (no clear first preference)						
Totally blank	169,351	179,243	20.9	24.9	1.23	1.26
Ticks and crosses	9,610	6,677	1.2	0.9	0.07	0.05
Other symbols	2,765	1,678	0.3	0.2	0.02	0.01
Non-sequential numbering	25,372	26,055	3.1	3.6	0.18	0.18
Scribbles, slogans and other protest vote marks	117,502	142,933	14.5	19.8	0.86	1.00
Illegible numbering	2,569	7,652	0.3	1.1	0.02	0.05
Other	8,681	13,348	1.1	1.9	0.06	0.09
<i>Total</i>	<i>335,850</i>	<i>377,586</i>	<i>41.4</i>	<i>52.4</i>	<i>2.45</i>	<i>2.65</i>

(Australian Electoral Commission, 2016d; 2018a)

Table 13. Assumed unintentional and intentional informal voting by state/territory, 2013–2016 House of Representatives elections

Category	Number		Proportion		Informality rate	
	2013 no.	2016 no.	2013 %	2016 %	2013 %	2016 %
Assumed unintentional informality (clear first preference)						
NSW	220,413	147,424	64.6	51.4	4.90	3.17
Vic.	91,131	77,866	50.6	45.2	2.62	2.16
Qld	87,609	68,212	64.2	51.8	3.29	2.43
WA	36,197	20,382	50.3	36.6	2.70	1.46
SA	25,430	18,534	49.6	40.8	2.41	1.71
Tas.	6,383	4,292	45.9	30.8	1.85	1.23
ACT	4,183	1,933	43.5	26.9	1.67	0.74
NT	3,947	4,686	59.0	60.6	3.72	4.45
<i>Total</i>	<i>475,293</i>	<i>343,329</i>	<i>58.6</i>	<i>47.6</i>	<i>3.46</i>	<i>2.41</i>
Assumed intentional informality (no clear first preference)						
NSW	120,593	139,655	35.4	48.6	2.68	3.00
Vic.	89,136	94,303	49.4	54.8	2.57	2.61
Qld	48,794	63,510	35.8	48.2	1.83	2.27
WA	35,835	35,287	49.7	63.4	2.68	2.53
SA	25,809	26,901	50.4	59.2	2.44	2.48
Tas.	7,509	9,634	54.1	69.2	2.18	2.76
ACT	5,434	5,252	56.5	73.1	2.16	2.02
NT	2,740	3,044	41.0	39.4	2.58	2.89
<i>Total</i>	<i>335,850</i>	<i>377,586</i>	<i>41.4</i>	<i>52.4</i>	<i>2.45</i>	<i>2.65</i>

(Australian Electoral Commission, 2016d; 2018a)

While procedural changes implemented for the 2013 IBPS also mean that data for 2016 and 2013 are not strictly comparable with those for previous federal elections, it is possible to approximate the level of assumed unintentional informal voting under the old definition. Doing so changes the 2016 proportion of assumed unintentionally informal votes from 47.6 per cent to 48.5 per cent, and changes the 2013 proportion of assumed unintentionally informal votes from 58.6 per cent to 61.2 per cent (as shown in Table 14 on page 49).

Under both current definitions and the old definitions, there were more ballot papers at the 2016 House of Representatives elections assumed to be intentionally informal than were assumed to be unintentionally informal. Informality studies for previous House of Representatives elections have all assumed that most informal ballot papers were unintentionally informal.

While the methodological improvements implemented for the 2016 IBPS limit the usefulness of comparisons against previous informality studies, figures in Table 13 suggest that this change was primarily driven by a decrease in the number of ballots showing a number '1' only and an increase in the number of ballots showing scribbles, slogans and other protest vote marks.

Table 14. Assumed unintentional and intentional informal voting (previous definitions³⁰), 2001–2016 House of Representatives elections

	2001 ³¹	2004	2007 ²⁷	2010	2013	2016
Assumed unintentional informality (previous definition)						
Number (no.)	383,030	396,341	319,225	374,809	496,169	349,436
Proportion (%)	66.0	61.9	62.5	51.4	61.2	48.5
Informality rate (%)	3.18	3.21	2.47	2.85	3.61	2.45
Assumed intentional informality (previous definition)						
Number (no.)	197,560	243,510	191,378	354,495	314,974	371,479
Proportion (%)	34.0	38.1	37.5	48.6	38.8	51.5
Informality rate (%)	1.64	1.97	1.48	2.70	2.29	2.60
Total informal votes (no.)	580,590	639,851	510,822	729,304	811,143	720,915
Total votes (no.)	12,054,664	12,354,983	12,930,814	13,131,667	13,726,070	14,262,016

(Australian Electoral Commission, 2003a; 2005b; 2009c; 2011a; 2016d; 2018)

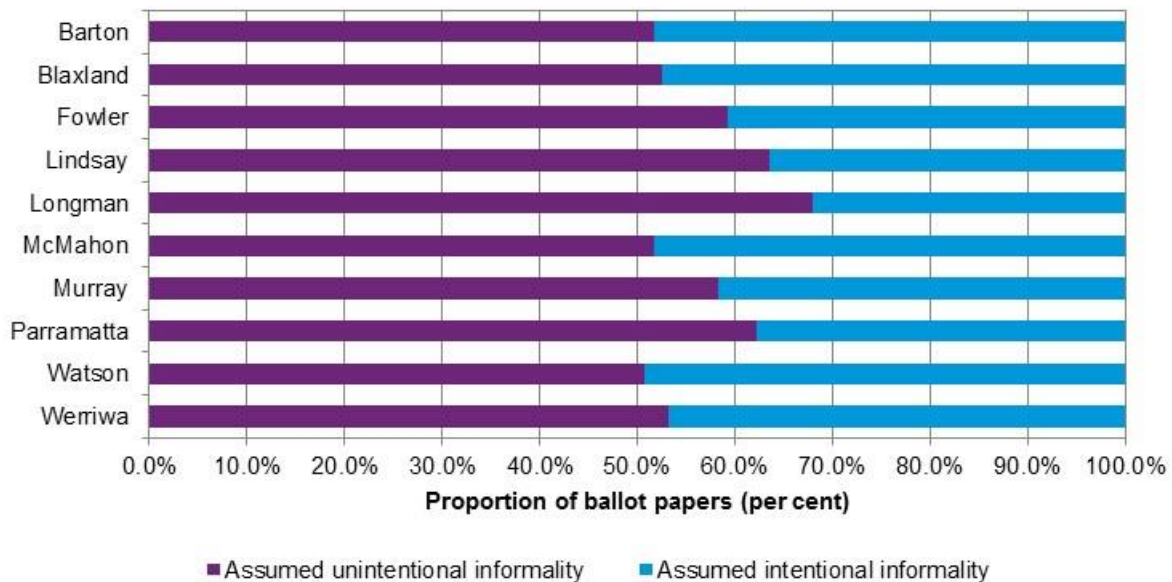
Intentionality in high and low informality divisions

In general, higher overall levels of informal voting within a division were associated with higher levels of unintentional informality.³² While the influence of assumed intentional informality on the total informality rate was not quite as strong³³, the ten divisions with the lowest rates of informal voting had more than half of their informal ballots assumed to be intentionally informal (and in nine of the ten, more than 60 per cent of informal ballots were assumed to be intentionally informal).

There were a total of 93,243 informal votes declared for the top ten divisions, with more than half of these (53,237, or 57.1 per cent) assumed to be unintentionally informal. The highest proportions of ballots assumed to be unintentionally informal were in Longman (67.9 per cent), Lindsay (63.6 per cent) and Parramatta (62.1 per cent), in part associated with higher numbers of House of Representatives candidates in these divisions. The highest proportions of ballots assumed to be intentionally informal were in Watson (49.3 per cent), Barton (48.4 per cent) and McMahon (48.3 per cent).

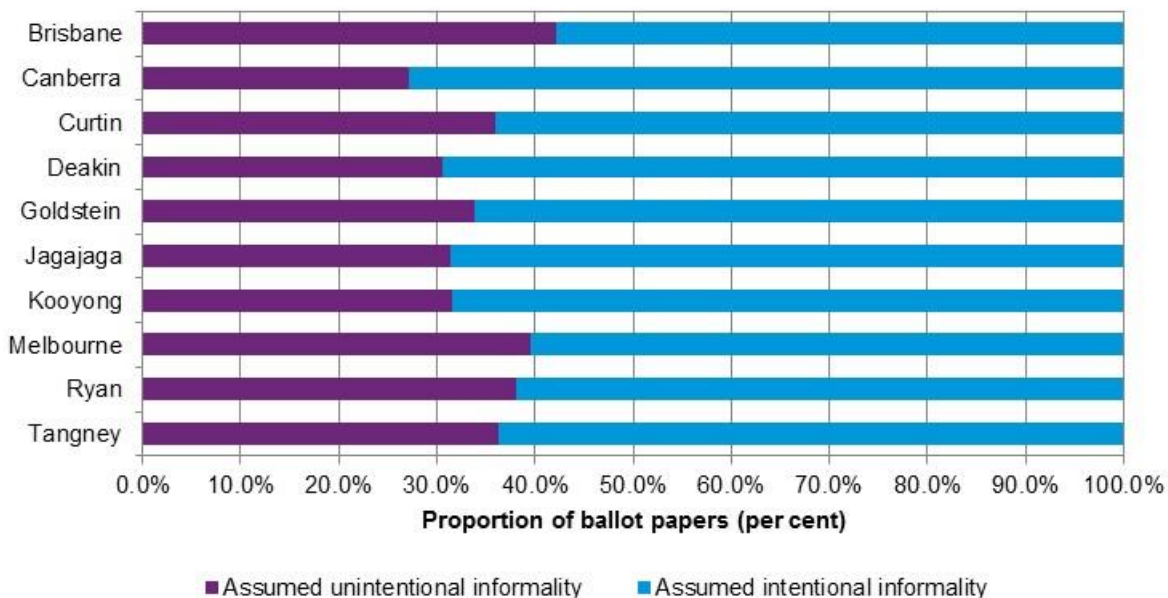
The knowledge that areas of high informality tend to have high levels of apparently unintentional informal voting can be used to inform geographically based strategies, focusing on educating electors about the requirements for a formal vote.

Figure 9. Assumed unintentional and assumed intentional informality, 2016 House of Representatives elections: ten divisions with the highest informality rates



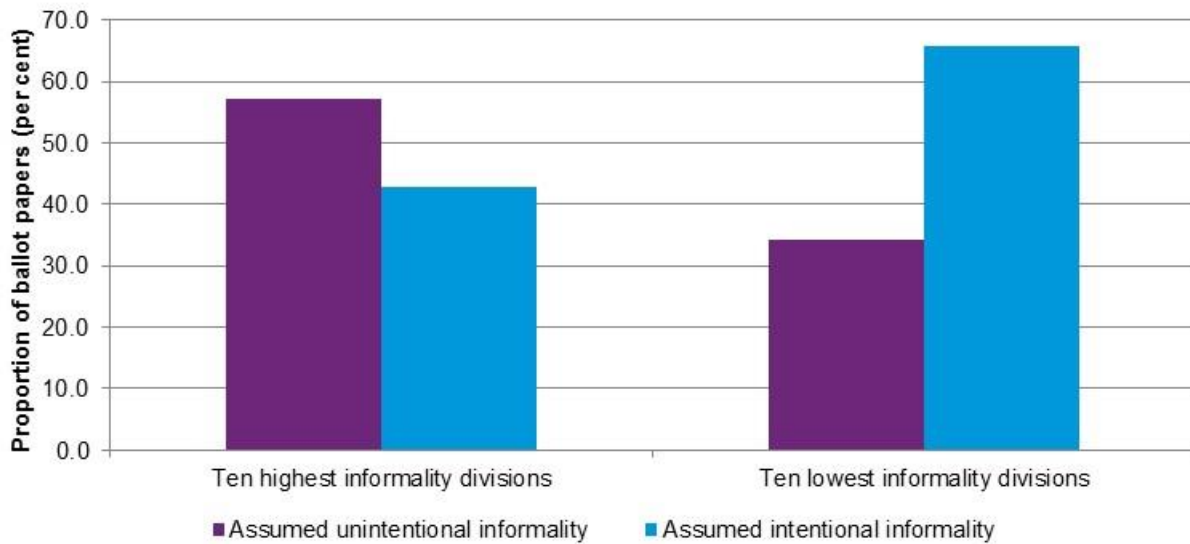
(Australian Electoral Commission, 2018a)

Figure 10. Assumed unintentional and assumed intentional informality, 2016 House of Representatives elections: ten divisions with the lowest informality rates



(Australian Electoral Commission, 2018a)

Figure 11. Assumed unintentional and assumed intentional informality in the highest and lowest informality divisions³⁴, 2016 House of Representatives elections



(Australian Electoral Commission, 2016d; 2018a)

Table 15. Assumed unintentional and intentional informality in divisions with the highest and lowest levels of informality¹⁹, 2016 House of Representatives elections

Division (state/territory)	Assumed unintentional informality (clear first preference)			Assumed intentional informality (no clear first preference)		
	Number no.	Proportion %	Informality rate %	Number no.	Proportion %	Informality rate %
Divisions with the ten highest informality rates in 2016						
Lindsay (NSW)	7,573	63.6	7.48	4,340	36.4	4.29
Blaxland (NSW)	5,483	52.6	6.07	4,946	47.4	5.48
Watson (NSW)	5,029	50.7	5.40	4,895	49.3	5.25
Fowler (NSW)	5,837	59.3	6.17	4,013	40.7	4.24
McMahon ²⁰ (NSW)	4,884	51.7	5.12	4,557	48.3	4.77
Parramatta (NSW)	5,200	62.1	5.75	3,167	37.9	3.50
Murray (Vic.)	4,965	58.2	5.14	3,565	41.8	3.69
Werriwa (NSW)	4,563	53.2	4.66	4,018	46.8	4.10
Longman (Qld)	5,576	67.9	5.79	2,641	32.1	2.74
Barton (NSW)	4,127	51.6	4.31	3,864	48.4	4.04
Divisions with the ten lowest informality rates in 2016						
Canberra (ACT)	973	27.1	0.74	2617	72.9	1.98
Jagajaga (Vic.)	809	31.5	0.85	1763	68.5	1.86
Deakin (Vic.)	757	30.6	0.82	1714	69.4	1.85
Tangney (WA)	791	36.2	0.92	1392	63.8	1.62
Melbourne (Vic.)	950	39.5	0.98	1454	60.5	1.50
Goldstein (Vic.)	798	33.8	0.83	1565	66.2	1.63
Ryan (Qld)	881	38.0	0.91	1437	62.0	1.48
Brisbane (Qld)	972	42.2	1.01	1332	57.8	1.38
Curtin (WA)	636	35.9	0.73	1136	64.1	1.30
Kooyong (Vic.)	574	31.5	0.63	1249	68.5	1.36

(Australian Electoral Commission, 2018a)

Factors influencing informal voting

There are many factors that appear to affect the levels and/or types of informal voting at federal elections. However, the complex linkages and interrelationships between these factors, as well as the secret ballot and unique environment for each election mean that it is sometimes not possible to accurately quantify – or even separately identify – the impact a particular factor may have. Previous AEC analyses of House of Representatives informality have indicated that:

- A wide range of socio-demographic and socio-economic factors are associated with geographic areas recording higher informality. When taken together, these could be associated with higher levels of social exclusion or disadvantage (for example, due to poor English language skills or a lack of education).
- A change in the number of candidates between elections is a significant predictor of changes in informal voting.
- Voter confusion about the differences between state and federal voting systems may influence the number of ballots with incomplete numbering or ticks and crosses in some states and territories.

While many of the factors influencing House of Representatives informality will also influence Senate informality, differences in voting methods (full preferential vs. partial preferential) and savings provisions that apply to Senate ballot papers mean that the impact of particular factors may vary between the houses.

An examination of the overall patterns of voting behaviour and the factors that appear to be related to this behaviour can improve our understanding of informal voting. This in turn helps to inform AEC strategies aimed at reducing informal voting.

Informal voting as a deliberate choice

As an intentionally informal vote represents a deliberate choice, voters' attitudes to and opinions of the electoral system or politics in general may contribute to (or even override) any of the other factors influencing informality.

A variety of surveys provide some insight into electors' general attitudes towards voting and politics. Key among these is the Australian Election Study (AES) survey conducted by the Australian National University since 1987. The 2016 AES found that there was a record low level of voter interest in the 2016 federal election, and very low levels of satisfaction with democracy and trust in government.

- Only 30 per cent of respondents took a good deal of interest in the 2016 federal election, down from 33 per cent in 2013, 34 per cent in 2010 and 40 per cent in 2007.³⁵

- 40 per cent of respondents were not satisfied with democracy in Australia, the lowest level since the 1970s.³⁶
- Only 26 per cent of respondents thought people in government can be trusted.³⁷ This is the lowest level since trust in government was first measured in 1969³⁸, and compares with 34 per cent in 2013, 37 per cent in 2010 and 43 per cent in 2007.³⁹
- About one in five respondents (20 per cent) believed that who people vote for won't make any difference, up from 17 per cent in 2013, 14 per cent in 2010 and 13 per cent in 2007.⁴⁰
- The ANU study also found some weakening in the perception that people in government can be trusted to "do the right thing".⁴¹

Noting the difficulties in comparing informality categories for 2016 with those from previous years, the apparent increase in the proportion of ballots containing scribbles, slogans and other protest vote marks as shown in Tables 8 and 12 on pages 34 and 47 is consistent with an increase in voter disengagement and decreasing levels of trust in government.

Socio-demographic correlations

Analysis of socio-demographic factors

Results from the 2016 IBPS were compared against results from the 2016 Census of Population and Housing based on polling place catchment areas. The process by which these catchment areas were constructed is described under *Analysing the demographics of informal voting*, commencing on page 20. The importance of various factors was assessed using correlations between:

- informality rates (including rates based on categories and assumed unintentionality/assumed intentionality),
- variables contained within the General Community Profiles (GCPs), and
- the Socio-Economic Indexes for Areas (SEIFA) Index of Relative Socio-Economic Advantage and Disadvantage (IRSAD).

Most GCP variables refer to various types of population counts (e.g. persons, households, families, adults or workers), but were converted to rates (proportions) to allow comparisons between polling place catchments. To some degree the GCP variables may be identifying different socio-demographic aspects of the same communities, rather than different population sub-groups. Nevertheless these separate demographic and social factors provide insights into the factors that affect formality, which can then be pursued in future strategies to reduce informal voting.

Pearson product-movement correlation coefficients (denoted by a lower case r) are used to measure the strength of the linear relationship between two variables.⁴² The square of the Pearson's r (denoted as r^2) specifically measures the proportion of the total variation in one variable that is explained by variation in the other variable. For example, a Pearson's r value of 0.40 gives an r^2

value of 0.16, meaning that 16 per cent of the variation in one variable is explained by changes in the other variable.

No attempt has been made to construct an informality model. The key reason for this is that a number of the GCP Census variables studied are quite highly correlated with each other, thus requiring some to be excluded from any model. This could, however, disguise potentially important facets to aid the understanding of informal voting.

One of the statistical methods used to test correlations is to run a significance test to determine whether or not an apparent effect is likely to be the result of random 'noise'. However when running significance testing with large numbers of data points, results tend to report as significant even if they appear tenuous to other forms of testing. In order to address this, the background analysis used to prepare this paper made minimal use of significance testing and instead only examined correlations where the absolute value of the Pearson's r was above 0.35 (r^2 of 0.12).

In addition, only those GCP variables believed to be more 'meaningful' were selected, rather than those that were potentially obscure, over-specific or defying reasonable interpretation. Highly detailed Census variables (or over-specific combinations of Census variables) were not included in the analysis, particularly if the main phenomena being examined were already covered by simpler variables.

Notes on interpretation

Inferences in this paper must be treated with caution. Data points do not represent individuals, but rather an aggregate of people's demographics or voting behaviour in a given area. GCP data also includes data for persons who are ineligible to vote, or who do not enrol and/or vote. As such there are limitations to what can be concluded from the findings, and possible incorrect inferences at the individual level (the ecological fallacy) need to be accounted for.

Readers unfamiliar with statistics should also note that correlation, which is an apparent relationship between two sets of data, does not imply causation. That is, just because one variable is correlated with another, it does not mean that a change in one variable causes the other to change.

Summary observations

At the national level, the only significant correlation between GCP variables and total informality rates related to persons aged 15 years and over who did no unpaid domestic work ($r = 0.36$). As the relatively poor strength of this result suggests a lack of homogenous behaviour among persons casting informal votes, socio-demographic analyses may therefore be more valuable when

undertaken for smaller groups within those casting informal votes, or when undertaken for smaller geographic regions.

High informality divisions

While there were no significant correlations between GCP variables and assumed (un)intentionality at the national level, there were a number of significant findings when the analysis was restricted to the ten divisions with the highest informality rates. Table 16 on page 57 suggests that polling place catchment areas with higher levels of informal voting also have higher proportions of children from couple families where one parent is not in the labour force, and persons in traditionally 'blue collar' occupations (machinery operators and drivers). Conversely, catchment areas with lower levels of informal voting had more people with higher incomes, higher levels of non-school education and those in managerial and professional occupations.

While there were no significant correlations between Census characteristics and assumed unintentional informality for the ten highest informality divisions, there were a number of variables associated with higher and lower rates of assumed intentional informality (these are summarised in Table 17 on page 58). These suggest, for example, that catchment areas with higher levels of assumed intentional informality in these top ten divisions may also have higher proportions of larger families, migrants, families where at least one parent is unemployed or not in the labour force and persons in traditionally lower paid occupations. The results also suggest that areas where there are higher levels of apparent administrative disengagement for Census purposes (e.g. employed persons not stating the number of hours they worked) may also have higher levels of assumed intentional informality.

Catchment areas in high informality divisions with lower levels of assumed intentional informality tended to have higher levels of female employment, and more people with post-school qualifications. Lower levels of intentional informality were also associated with higher proportions of occupied private dwellings containing couple families without children, people with Irish ancestry, people with secular beliefs or no religious affiliation, and people performing volunteer work. However, as previously noted, it is important to not make assumptions about the behaviour of individuals based on aggregate statistics for geographic areas.

Taken together, the socio-demographic correlation results suggest that a more detailed examination of the impact of social inclusion and disadvantage may be useful in understanding informality and designing initiatives.

Table 16. Selected 2016 Census variables associated with higher and lower informality rates in the ten highest informality divisions, 2016 House of Representatives elections

Correlation coefficient	2016 Census GCP variable		
	Table	Code	Description
Variables associated with HIGHER informality rates			
0.40	G44d	G10272	Dependent children in couple families where the female parent is not in the labour force
0.39	G53	G14124	Persons aged 15 years and over employed as machinery operators and drivers
Variables associated with LOWER informality rates			
-0.40	G44d	G10260	Dependent children in couple families with a female parent in the labour force
-0.39	G17b	G6243	Persons aged 15 years and over with a weekly personal income of \$3,000 or more
-0.39	G50b	G12510	Employed females aged 15 years and over with a non-school qualification
-0.37	G47b	G11281	Persons aged 45–54 years with a non-school qualification
-0.37	G40	G8652	Persons with a Graduate Diploma or Graduate Certificate level qualification
-0.36	G57	G15019	Females aged 15 years and over employed as professionals
-0.36	G49b	G12047	Females aged 15 years and over employed as Managers

(Australian Bureau of Statistics, 2017; Australian Electoral Commission, 2018a)

Table 17. Selected 2016 Census variables associated with assumed intentional informality in the ten highest informality divisions, 2016 House of Representatives elections

Correlation coefficient	2016 Census GCP variable		
	Table	Code	Description
Variables associated with HIGHER rates of assumed intentional informality			
0.41	G31	G7915	Occupied private dwellings where there are six or more persons usually resident
0.41	G08	G1043	Persons with Australian ancestry where both parents were born overseas
0.39	G55	G14605	Couple families with children where both parents are unemployed or not in the labour force
0.39	G55	G14603	Couple families with children where one parent is employed part-time and the other is unemployed or not in the labour force
0.38	G52c	G13916	Employed persons aged 15 years and over who did not state their number of hours worked
0.37	G51c	G13279	Employed persons aged 20–24 years
0.37	G52c	G13797	Persons aged 15 years and over employed in the transport, postal and warehousing industry
0.36	G20	G6735	Persons aged 15 years and over who did no unpaid domestic work
Variables associated with LOWER rates of assumed intentional informality			
-0.41	G47b	G11205	Persons aged 15 years and over with a non-school qualification in the Health field of study
-0.40	G14	G5456	Persons indicating secular beliefs, other spiritual beliefs or no religious affiliation
-0.37	G08	G1120	Total responses to Ancestry question indicating Irish ancestry
-0.36	G46b	G10876	Persons aged 45–54 years with a non-school qualification
-0.36	G39	G8609	Occupied private dwellings containing couple families with no children
-0.35	G51b	G13077	Employed females aged 15 years and over
-0.35	G19	G6524	Persons aged 15 years and over performing voluntary work for an organisation or group

(Australian Bureau of Statistics, 2017; Australian Electoral Commission, 2018a)

Social exclusion and disadvantage

Social exclusion is a concept of *relative* deprivation and community disengagement, and can be measured using broad indices of socio-economic status within and across geographic regions. Analysis of social exclusion and disadvantage is therefore more productively examined on a divisional or regional basis, rather than examining state/territory or national results.

As shown in Table 18 below, informal voting was firmly linked to socio-economic status across polling places in capital cities (mean $r = -0.62$). That is, polling place catchments in capital cities with higher levels of informality tended to be more socio-economically disadvantaged. With the notable exception of the Northern Territory ($r = -0.72$), this relationship was weaker outside of capital cities.

Table 18. Correlation between informal voting and socio-economic status⁴³ by capital city/balance of state, 2016 House of Representatives elections

State/territory	Capital city <i>r</i>	Balance of state/territory <i>r</i>
NSW	-0.62	-0.38
Vic.	-0.54	-0.40
Qld	-0.61	*
WA	-0.70	*
SA	-0.69	*
Tas.	-0.77	-0.44
ACT	-0.43	..
NT	-0.58	-0.72
Average (mean)	-0.62	-0.39

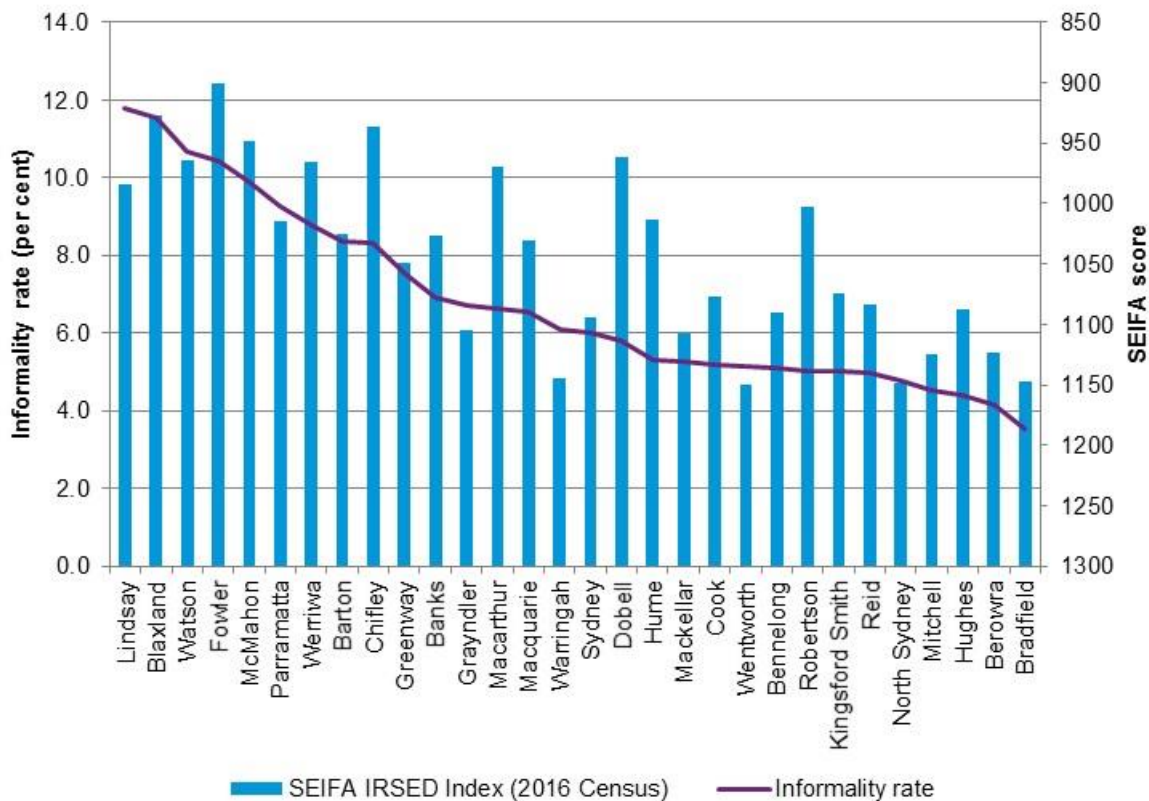
(Australian Bureau of Statistics, 2018; Australian Electoral Commission, 2016f)

* Absolute value of the correlation coefficient was below the reporting threshold of 0.35.

Note: Correlations are calculated using an aggregation of polling place catchment areas. Where divisions straddled a capital city/balance of state boundary, polling places were assigned to the region their division largely belonged to.

Figure 12 on page 60 illustrates the close association between levels of informal voting and socio-economic advantage/disadvantage across electoral divisions in Sydney ($r = 0.77$, $r^2 = 0.59$). In other words, when calculated at the divisional level (as opposed to at the polling place catchment level) relative socio-economic status explains about 59 per cent of the variation in informality rates. If some of the more geographically anomalous divisions (the northern fringe divisions of Dobell and Robertson, and the southern fringe divisions of Macarthur and Hume) are excluded from the analysis, the correlation is even stronger ($r = 0.88$ and $r^2 = 0.78$).

Figure 12. Informality rate at 2016 House of Representatives elections and Index of Relative Socio-economic Advantage and Disadvantage, Sydney electorates⁴⁴



(Australian Bureau of Statistics, 2018; Australian Electoral Commission, 2016f)

Note: correlations are calculated based on divisional totals rather than polling place catchment areas.

Rates of informal voting within electoral divisions were also associated with socio-economic advantage and disadvantage. While these relationships were generally not quite as strong as those between divisions across the capital cities, there is still ample evidence that a socio-economic effect exists *within* many divisions.

Appendix C on page 81 shows the correlations between informality rates and indexes of relative socio-economic advantage and disadvantage based on polling place catchment areas within all Commonwealth Electoral Divisions in 2016.

- Nationwide, the strongest intra-divisional socio-economic effects appeared to be in Denison ($r = -0.86$, $r^2 = 0.73$), Wills ($r = -0.83$, $r^2 = 0.69$) and Leichhardt ($r = -0.82$, $r^2 = 0.68$).
- 85 out of 150 divisions had a relationship between socio-economic status and informality of strength greater than $r = -0.50$ ($r^2 = 0.25$) across their polling place catchments.

- The strongest socio-economic effects among high informality divisions appeared to be in Parramatta ($r = -0.79$, $r^2 = 0.62$), Watson ($r = -0.72$, $r^2 = 0.52$) and Murray ($r = -0.63$, $r^2 = 0.40$).
- The strongest socio-economic effects among low informality divisions appeared to be in Curtin ($r = -0.74$, $r^2 = 0.55$), Melbourne ($r = -0.71$, $r^2 = 0.50$) and Jajajaga ($r = -0.71$, $r^2 = 0.50$).

Table 19. Correlation between intra-divisional socio-economic status and informality by polling place, 2016 House of Representatives elections: ten divisions with the highest and lowest levels of informal voting

	Informality rate %	Correlation with Index of Relative Socio-economic Advantage and Disadvantage	
		r	r^2
Divisions with the ten highest informality rates in 2016			
Lindsay (NSW)	11.77	-0.52	0.27
Blaxland (NSW)	11.55	*	*
Watson (NSW)	10.65	-0.72	0.52
Fowler (NSW)	10.41	*	*
McMahon (NSW)	9.89	-0.55	0.30
Parramatta (NSW)	9.26	-0.79	0.62
Murray (Vic.)	8.84	-0.63	0.40
Werriwa (NSW)	8.76	-0.53	0.28
Longman (Qld)	8.53	-0.40	0.16
Barton (NSW)	8.35	-0.47	0.22
Divisions with the ten lowest informality rates in 2016			
Canberra (ACT)	2.71	-0.45	0.20
Jagajaga (Vic.)	2.71	-0.71	0.50
Deakin (Vic.)	2.66	-0.46	0.21
Tangney (WA)	2.55	-0.63	0.40
Melbourne (Vic.)	2.48	-0.71	0.50
Goldstein (Vic.)	2.46	-0.44	0.19
Ryan (Qld)	2.39	-0.45	0.21
Brisbane (Qld)	2.39	-0.48	0.23
Curtin (WA)	2.02	-0.74	0.55
Kooyong (Vic.)	1.99	*	*

(Australian Bureau of Statistics, 2018; Australian Electoral Commission, 2016f)

* Absolute value of the correlation coefficient was below the reporting threshold of 0.35.

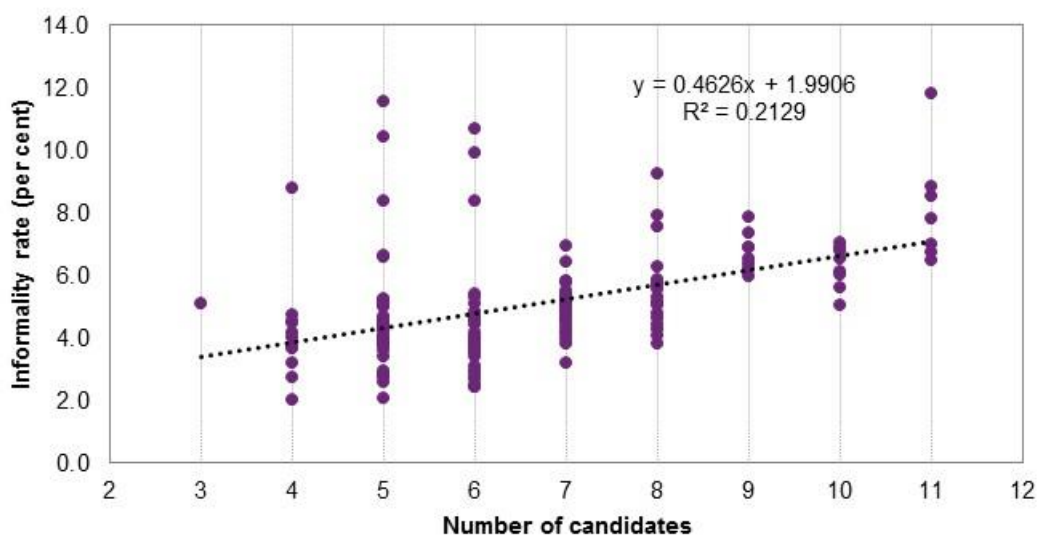
Number of candidates

Voters are required to allocate a preference to every candidate on the House of Representatives ballot paper for their division. At the 2016 House of Representatives elections, the number of candidates ranged from a low of 3 (in the Division of Gorton) to a high of 11 (in the Divisions of Batman, Dunkley, Grayndler, Lindsay, Longman, Murray and Solomon).

Logically, having more candidates on a ballot paper increases the likelihood that a voter will make an error while marking the ballot, or simply decide to stop numbering at a given point. However, while the relationship between candidate numbers and informality is logical, any effect it may have on the total informality rate does not appear as strong as other factors.

Analyses of results from the 2010, 2013 and 2016 House of Representatives elections shows that the number of candidates on a ballot paper is a relatively poor predictor of the total informality rate.⁴⁵

Figure 13. Numbers of candidates and total informality rates, 2016 House of Representatives elections



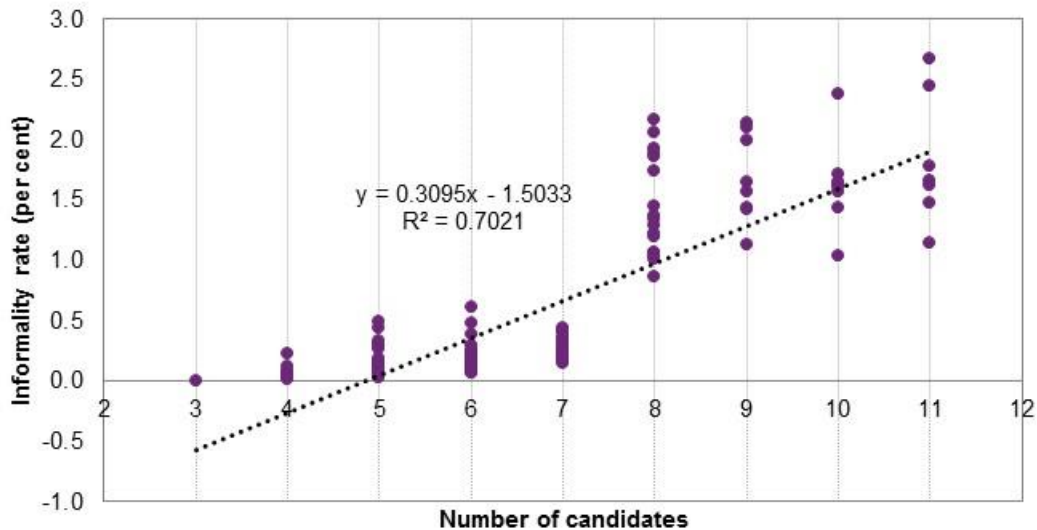
(Australian Electoral Commission, 2016f)

However, if the number of candidates on the ballot paper causes voters to stop numbering or make mistakes in their numbering, it would specifically impact upon rates of informal voting in the broad categories *AnB0* (for incomplete numbering other than a number '1' only) and *AnE* (for non-sequential numbering with a clear first preference).

Linear regressions were used to compare the number of candidates with informality rates for ballot papers in categories *AnB0* and *AnE*. As illustrated in Figures 14 and 15, the number of candidates

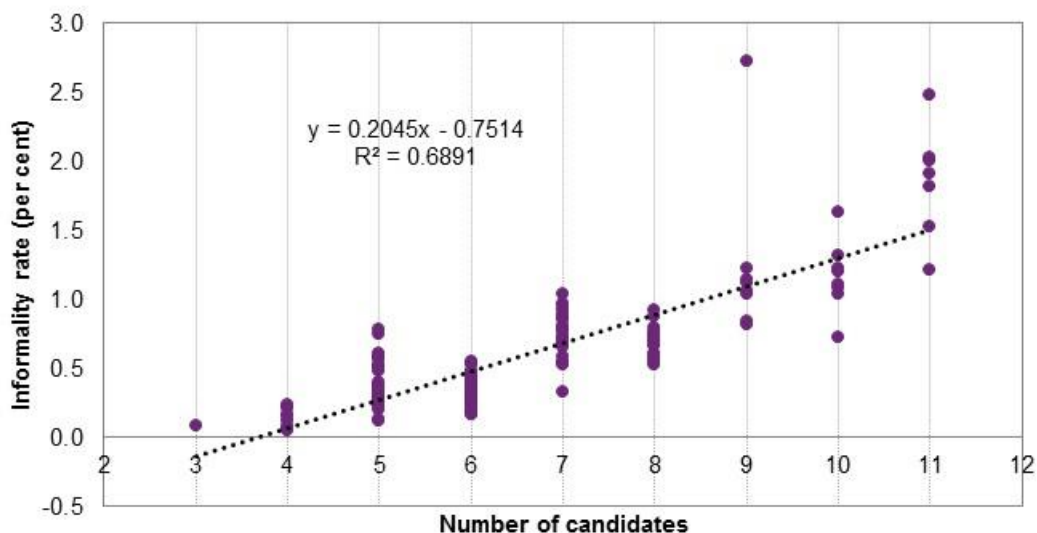
was a significant predictor in both cases, with the models explaining 70 per cent of the AnB0 rate⁴⁶, and 69 per cent of the AnE rate.⁴⁷

Figure 14. Numbers of candidates and AnB0 informality rate (incomplete numbering other than a number '1' only), 2016 House of Representatives elections



(Australian Electoral Commission, 2018a)

Figure 15. Numbers of candidates and AnE informality rate (non-sequential numbering with a clear first preference), 2016 House of Representatives elections



(Australian Electoral Commission, 2018a)

On the basis of these findings, it appears that a higher number of candidates on a ballot at the 2016 House of Representatives elections was likely to have led to higher numbers of ballots with incomplete numbering (other than a number '1' only) or non-sequential numbering (with a clear first preference). The similarity of the explanatory power of the models suggests that voters were as likely to stop numbering as they were to make a mistake in their numbering.

Differences between electoral systems and proximity between electoral events

Previous AEC research has examined a possible relationship between informal voting at House of Representatives elections and the different formality requirements existing for state and territory lower house elections. In theory, if requirements differ between state or territory and federal elections, electors may become confused and cast their vote according to the wrong system. The probability of any confusion would presumably be higher when elections based on different systems are held close to one another.

Key differences between state/territory electoral systems and House of Representatives elections that may impact on informality rates at House of Representatives elections relate to:

- The minimum number of preferences required to be shown, and
- Whether a tick or cross is acceptable as a first preference.

The minimum level of preferences and acceptability of ticks and crosses within state/territory lower house (Legislative Assembly or House of Assembly) elections is summarised in Table 20.

Table 20. Formality requirements at State and Territory Lower House elections

State/ territory	Legislature	Voting system	Minimum number of preferences required	Tick or cross acceptable as first preference
NSW	Legislative Assembly	Optional preferential	1	Yes
Vic.	Legislative Assembly	Full preferential	No. of candidates ⁴⁸	No
Qld	Legislative Assembly	Full preferential ⁴⁹	No. of candidates	No
WA	Legislative Assembly	Full preferential	No. of candidates ⁴⁸	Sometimes ⁵⁰
SA	House of Assembly	Full preferential	No. of candidates ⁵¹	Yes
Tas.	House of Assembly	Partial preferential (Hare-Clark)	No. of vacancies ⁵²	No
ACT	Legislative Assembly	Partial preferential (Hare-Clark)	No. of vacancies ⁵³	No
NT	Legislative Assembly	Optional preferential ⁵⁴	1	Yes

(Electoral Commission New South Wales, n.d.; 2014; Victorian Electoral Commission, 2014; Electoral Commission Queensland, 2015; Western Australian Electoral Commission, 2018a; 2018b; Electoral Commission SA, n.d.; Tasmanian Electoral Commission, 2017; 2018; Elections ACT, 2016a; 2016b; Northern Territory Electoral Commission, 2016)

Ballots with a number '1' only

As shown in Table 21 below, the highest proportions of informal House of Representatives votes with a number '1' only were in New South Wales (19.6 per cent), Queensland (15.2 per cent) and the Australian Capital Territory (12.6 per cent). In each case, it seems plausible that at least some of these ballots may have been caused by voter confusion regarding the differences between state/territory and federal electoral systems.

- The optional preferential voting (OPV) system used for Legislative Assembly elections in New South Wales allows single preferences. (Electoral Commission New South Wales, n.d.)
- While the Hare-Clark system used for Legislative Assembly elections in the Australian Capital Territory asks voters to submit preferences that are at least equal to the number of vacancies, ballot papers with a unique first preference are still accepted as formal. (Elections ACT, 2016)
- An OPV system was used for Queensland Legislative Assembly elections until it was replaced by full preferential voting (FPV) in April 2016 (Electoral Commission Queensland, 2016). Given that the next Queensland state election was not held until 2017, it is possible that some Queensland voters may still have believed that an OPV applied at the time of the 2016 House of Representatives elections.

At first glance, it appears anomalous that while an OPV system applied for Legislative Assembly elections in the Northern Territory (Northern Territory Electoral Commission, 2017), the Northern Territory had the lowest proportion of '1' only ballots at the 2016 House of Representatives elections. However, this OPV system was not introduced until February 2016 (Northern Territory Electoral Commission, 2015), and since the next Legislative Assembly election was not held until after the 2016 federal election, it is possible that many Northern Territory electors may still have believed the previous FPV system applied.

On the basis of the above analysis, there appears to be a prima facie case that differences between federal and state/territory electoral systems may have an impact on the number of '1' only ballots cast at House of Representatives elections.

Ballots showing a tick or cross as a first preference

At the 2016 House of Representatives, the highest proportions of informal ballot papers showing a tick or cross as the first preference were in Western Australia (8.8 per cent), New South Wales (8.6 per cent), and South Australia (7.0 per cent). Once again, it seems highly plausible that some of these were due to voter confusion about the electoral system being applied.

- Ticks or crosses are explicitly allowed as first preferences at both New South Wales Legislative Assembly and South Australia House of Assembly elections. (Electoral Commission New South Wales, n.d.; Electoral Commission SA, n.d.)

- Ballot papers showing a tick or cross as a first preference may also be accepted under formality requirements for Western Australia Legislative Assembly elections. (Western Australian Electoral Commission, 2018a).

Once again, there would appear to be anomalous results for the Northern Territory, as even though ticks and crosses are allowed as first preferences for Legislative Assembly elections, the Territory recorded the lowest proportion of House of Representatives ballots with a tick or cross in place of the first preference. As previously noted, this could be influenced by voters believing that the previous FPV system still applied at the time of the 2016 federal election.

As with number '1' only ballots, there appears to be some evidence that differences in electoral systems have an impact on the numbers of ballots using ticks or crosses in place of the first preference.

Table 21. Informal ballots where a clear first preference was indicated with a number '1' only, tick or cross (proportion of total informal votes), 2016 House of Representatives elections

State/territory	Number '1' only	Tick or cross
	%	%
NSW	19.6	8.6
Vic.	8.7	4.8
Qld	15.2	4.8
WA	12.1	8.8
SA	9.9	7.0
Tas.	9.1	3.2
ACT	12.6	6.3
NT	6.9	2.7
Total	14.6	6.7

(Australian Electoral Commission, 2018a)

Proximity between electoral events

Given the time periods involved (for example, the most recent state or territory election being held 182 days prior to the 2013 federal election), AEC generally conducts minimal analysis of the proximity between state/territory electoral events and House of Representatives informality.

The closest state or territory election held prior to the 2016 federal election (held on 2 July 2016) was the 2015 New South Wales state election held on 28 March 2015 (that is, 462 days before the federal election). The next closest election was the 2015 Queensland state election on 31 January 2015 (that is, 518 days before the federal election). Given the time periods involved, it is unlikely that proximity

between state/territory and federal electoral events had any significant effect on House of Representatives informality in 2016.

Table 22. Most recent state/territory election dates prior to the 2016 federal election

State/territory	Most recent state/territory election date	Days prior to 2016 federal election	no.
NSW	28 March 2015		462
Vic.	29 November 2014		581
Qld	31 January 2015		518
WA	9 March 2013		1,211
SA	15 March 2014		840
Tas.	15 March 2014		840
ACT	20 October 2012		1,351
NT	25 August 2012		1,407

(Australian Electoral Commission, 2016b)

By-elections since 2016

The AEC does not usually conduct studies of by-election informality. This is partly because the variability in formality and turnout for by-elections make it difficult to generalise about by-elections, other than the likelihood that voter engagement (as reflected in turnout and informality) will be lower than at a general election. However the 45th Parliament has had an unusually high number of by-elections, which has provided the opportunity to examine some specific factors affecting informality.

The 45th Parliament

The 45th Parliament (2016+) has had nine by-elections as at the time of writing, the second highest number of by-elections in a single term since Federation. The Parliament with the highest number of by-elections was the 20th (1951-54), which had ten by-elections, nine of which were due to deaths and one to a resignation. In contrast eight of the nine by-elections in the 45th Parliament were caused by issues related to Section 44 of the Australian Constitution, and one was the result of a resignation for other reasons.

By-elections in general

In general, voter engagement, as measured by voter turnout and formality rates, is lower at by-elections than at a general House of Representatives election. Turnout consistently drops at by-elections compared to the previous election, although as shown in the table below formality is more variable.

At all of the by-elections since 2016 turnout has dropped relative to the 2016 general election. In some divisions formality dropped substantially (notably in the Division of Perth, formality dropped by 6.29 percentage points), and in others it rose (Longman and Batman improved formality by 2.46 and 1.57 percentage points respectively).

Table 23. Formality and turnout rates, 2016 federal elections and 2017-2018 by-elections

Division	Date	Formality			Turnout		
		2016 %	By-election %	Swing %	2016 %	By-election %	Swing %
New England	2/12/2017	92.96	91.06	-1.90	93.37	87.13	-6.24
Bennelong	16/12/2017	94.91	91.88	-3.03	91.71	85.96	-5.75
Batman	17/03/2018	92.22	93.79	1.57	89.69	81.46	-8.23
Braddon	28/07/2018	94.77	94.29	-0.48	94.09	90.38	-3.71
Fremantle	28/07/2018	96.00	92.76	-3.24	88.81	66.09	-22.72
Longman	28/07/2018	91.47	93.93	2.46	91.68	84.26	-7.42
Mayo	28/07/2018	97.11	96.47	-0.64	94.19	85.52	-8.67
Perth	28/07/2018	96.23	89.94	-6.29	88.04	64.07	-23.97
Wentworth	20/10/2018	94.87	93.92	-0.95	86.24	78.08	-8.16

(Australian Bureau of Statistics, 2018; Australian Electoral Commission, 2017b; Australian Electoral Commission, 2017c; Australian Electoral Commission, 2018c; Australian Electoral Commission, 2018d; Australian Electoral Commission, 2018e; Australian Electoral Commission, 2018f; Australian Electoral Commission, 2018g; Australian Electoral Commission, 2018h; Australian Electoral Commission, 2018i)

The Fremantle and Longman by-elections

The AEC conducted studies of the informal ballot papers from the by-elections in Fremantle and Longman, using the same categorisations used for the 2016 federal elections. The two particular factors that the AEC examined were the effect of not having a candidate from a major party, as was the case in Fremantle, and the effect of confusion over the Senate voting system in a division where this appeared to be a substantial issue in 2016, as was the case in Longman.

Common elements

Most categories of informal ballot papers in both divisions had relatively small changes between the 2016 general election and the by-elections, although Longman had greater variation in categories of informality than Fremantle.

Both Fremantle and Longman had an increase in ballot papers with scribbles, slogans or other protest marks, although the increase was substantially higher in Fremantle. The general increase in this category was expected as a reaction to a by-election being held (which was a theme of several slogans). In the case of Fremantle it was also expected that the lack of a candidate from one major party would increase this category, which is discussed further below.

Accompanying the changes was a marked shift in assumed intentional versus unintentional informal voting. As shown in the table below, assumed intentionally informal voting increased in Fremantle from 64.2 to 73.8 per cent, and in Longman from 32.1 per cent to 58.0 per cent.

Table 24. Assumed unintentional and intentional informal voting by division, 2016 House of Representatives elections and 2018 by-elections

Category	Number		Proportion		Informality rate	
	2016 no.	2018 no.	2016 %	2018 %	2016 %	2018 %
Assumed unintentional informality (clear first preference)						
Fremantle	1,266	1,294	35.8	26.2	1.43	1.90
Longman	5,576	2,398	67.9	42.0	5.79	2.55
Assumed intentional informality (no clear first preference)						
Fremantle	2,269	3,639	64.2	73.8	2.57	5.34
Longman	2,641	3,309	32.1	58.0	2.74	3.52

(Australian Electoral Commission, 2018a; Australian Electoral Commission, 2018b)

The change in assumed intentionality in Fremantle was clearly driven by the increase in ballot papers with scribbles, slogans and other protest marks. In Longman, in addition to an increase in ballot papers with scribbles, slogans and other protest marks there was a substantial drop in assumed unintentionally informal ballot papers. This drop contributed to the overall shift in Longman's balance of assumed intentional and unintentional informal ballots⁵⁵.

The effect of a major party not running a candidate at a by-election

It is logical to assume that the absence of a candidate from a major party (or a minor party that had historically polled well) would lead to a decrease in turnout and formality. This hypothesis is supported by the turnout and formality rates for elections where this has occurred, as it did in Fremantle and Perth at the 28 July 2018 by-elections.

The most notable change in Fremantle's informal ballot paper categories was the high prevalence of ballot papers marked with scribbles, slogans, or other protest marks. The informality rate for Fremantle rose by 3.24 percentage points from 4.00 per cent in 2016 to 7.24 per cent at the by-election. Ballot papers with scribbles, slogans or other protest marks were 3.07 per cent of the total vote, accounting for nearly two thirds of the informality increase. While in many instances it is not possible to determine the intention of a slogan, many of these ballot papers referenced the lack of a Liberal candidate or appeared to be an attempt to vote for a Liberal candidate.

These changes in voting patterns support the proposition that the lack of a candidate from a major party substantially affected the types of informality at the Fremantle by-election, and contributed to

the overall increase in informality above and beyond the generally lower levels of voter engagement at a by-election.

The effect of Senate voting system confusion at a by-election

At the 2013 general election the Division of Longman was in the lowest third of divisions for informality, with an informality rate of 5.07 per cent. At the 2016 general election Longman's informality rate increased to 8.53 per cent, the ninth highest informality rate of the election.

The primary cause of the increase in informality for the 2016 elections was a large number of ballot papers marked one to six only. As noted on page 31 this was likely to have been caused by confusion with the Senate above the line voting instructions. '1' to '6' voting accounted for nearly a fifth of Longman's informal ballot papers (18.9 per cent).

The Division of Longman was selected for further study on the following bases:

- The likelihood of reduced confusion between House of Representatives and Senate voting systems:
 - At a by-election there is no messaging about Senate voting (either by the AEC or by other sources);
 - At a by-election there are no Senate ballot papers;
 - By the Longman by-election polling day 756 days had passed since the 2016 general election.
- Longman had the same number of candidates (eleven) at both the by-election, and for the 2016 general election.
- The Longman by-election could demonstrate whether the one to six voting at the 2016 general election would continue in the absence of Senate messaging.

At the 2018 by-election Longman's informality rate decreased by 2.47⁵⁶ percentage points from 8.53 per cent at the 2016 general election to 6.07 per cent. The largest contributing factor to this decrease was '1' to '6' ballot papers dropping from just under one in five (18.9 per cent) of Longman's informal ballot papers to around one in 475 (0.2 per cent).

These findings strongly support the proposition that the '1' to '6' informal voting at the 2016 general election was related to the Senate voting system. In practical terms, returning to the normal messaging on the Senate voting system should reduce this form of informality for the next general election⁵⁷.

Conclusions

Informal voting in Australia is a complex phenomenon. There are many factors that appear to affect both the levels and types of informal voting, and many of these are closely inter-related. In many cases it is not possible to accurately quantify, or even separately identify, the impact that a particular factor may have. The very nature of the secret ballot, as well as the uniqueness of the environment for each federal election, means that it is not possible to conclusively determine why a voter may have voted informally. However, there are a number of variables that appear to have a relationship with informality and it is therefore possible to draw some useful conclusions.

Trends in informality

The national informality rate at the 2016 House of Representatives elections was lower than those recorded in 2013 and 2010. While volatility means that it is difficult to reliably determine trends, House of Representatives informality has increased at seven out of the twelve federal elections held since the introduction of major electoral reforms in 1984. The most recent previous decrease in informal voting was in 2007.

While methodological improvements implanted for this study limit the comparisons that can be made with previous years, the largest contributor to the observed reduction in the total informality rate between 2013 and 2016 appears to be a decrease in the numbers of ballots showing a number '1' only. There were also smaller decreases in the numbers of ballots with ticks or crosses and the numbers of ballots showing non-sequential numbering with a clear first preference.

Types of informal voting

For the first time, more than half of all informal ballots cast at the 2016 House of Representatives elections were assumed to be intentionally informal. However, among the ten divisions with the highest rates of informal voting, more than half of all informal ballots were assumed to be unintentionally informal, and assumed unintentional informality was a highly significant predictor of the total informality rate.

More than a quarter of all informal votes cast in 2016 had incomplete numbering, with more than half of these showing a number '1' only. A further quarter of all informal ballots cast were totally blank, while about one in five were informal due to scribbles, slogans or other protest vote marks and one in six showed non-sequential numbering.

High informality divisions

For the first time since the 2001 federal election, not all of the divisions recording the ten highest House of Representatives informality rates were in Sydney. However, seven out of these top ten (Blaxland, Watson, Fowler, McMahon, Parramatta, Werriwa and Barton) were in Sydney and were also in the top ten at the 2013 House of Representatives elections.

Analysis suggests that informality rates for the three divisions that were new to the ‘top ten’ listing for 2016 (Lindsay in Sydney, Murray in Victoria and Longman in Queensland) are likely to have increased due to the high number of candidates (11) on each ballot paper, as well as voter confusion about the different numbering requirements for House of Representatives and Senate ballots in 2016.

Factors influencing informal voting

Analysis of results from the 2016 House of Representatives elections indicated that higher numbers of candidates on ballot papers were associated with higher numbers of ballots showing incomplete or non-sequential numbering. In other words, when there were more candidates to assign preferences to, voters were more likely to make a mistake or to stop numbering before they had completed their ballot paper.

There was also some evidence suggesting that the types of informal votes cast at House of Representatives elections (in particular, ballots showing a number ‘1’ only or showing a tick or cross in place of the first preference) may be influenced by the different electoral systems used at the state/territory and federal levels.

Related to this, comparison of the division of Longman at the 2016 federal election and the 2018 by-election highlighted the effect of confusion caused by the difference in voting requirements between the House of Representatives and Senate at the 2016 federal election. The high prevalence in 2016 of ballot papers recording preferences ‘1’ to ‘6’ only (in line with the ‘above the line’ requirements for the Senate) on their House of Representatives ballot paper fell to negligible levels in 2018, in the absence of an AEC and media focus on Senate voting requirements.

The 2018 Fremantle by-election supported the proposition that the lack of a candidate from a major party contributes to an overall increase in assumed intentional informality. The most notable change in Fremantle’s informal ballot paper categories was the high prevalence of ballot papers marked with scribbles, slogans, or other protest marks, accounting for nearly two thirds of the informality increase from the 2016 federal election to the 2018 by-election.

In addition to these election-specific factors, AEC analysis comparing election results against Census characteristics associated with polling place catchments indicates that informal voting is correlated

with a range of complex and inter-related demographic, socio-economic and cultural traits. In many cases, informal voting associated with such factors is merely a symptom of a wider nexus of socio-economic challenges. For example, the apparent link between informal voting and social exclusion/disadvantage may help explain why many initiatives aimed at reducing informality have met with only limited success.

Nevertheless, it is incumbent upon the AEC to continue to develop strategies to reduce informality and thereby increase voter enfranchisement. Future analyses of informal voting will inform such strategies, continuing to strengthen the integrity of federal elections.

Appendices

Appendix A. Key terms

Term	Definition
Above the Line (ATL) voting	<p>Since 1984, Senate ballot papers have been classified as either 'above the line' (ATL) or 'below the line' based on the preferences used for the purposes of counting. Under ATL voting, voters place the required number of preferences in the upper section of the ballot paper in order to adopt the order of preferences shown within a particular party or group.</p> <p>Prior to the 2016 federal election, ATL voting was also known as 'ticket' voting, and electors could provide a single mark above the line to adopt a complete ballot paper preference order lodged by a party or group.</p>
Absent vote	<p>A declaration vote cast on polling day at a polling place located outside the division, but within the state or territory, for which the elector is enrolled.</p>
Assumed intentional informality (House of Representatives)	<p>From the 2013 Informal Ballot Paper Study (IBPS), this refers to all House of Representatives informal ballots papers where there is no clear first preference. This definition was refined for the 2016 IBPS to exclude any ballot papers that were cast for an incorrect division, regardless of whether or not there was a clear first preference.</p>
Assumed unintentional informality (House of Representatives)	<p>From the 2013 IBPS, this refers to all House of Representatives informal ballot papers where there is a clear first preference. This definition was refined for the 2016 IBPS to include any ballot papers that were cast for an incorrect division, regardless of whether or not there was a clear first preference.</p>
Below the Line (BTL) voting	<p>See Above the Line voting. Voters may cast a BTL vote by recording the required minimum number of preferences below the line on a Senate ballot paper.</p>
Declaration vote	<p>Declaration votes are those where the ballot paper is sealed in a declaration envelope signed by the elector and counted after election night. Declaration votes comprise absent votes, postal votes, pre-poll declaration votes and provisional votes.</p> <p>A preliminary scrutiny process is applied to all declaration votes, whereby the voter's declaration envelope is checked for a range of requirements. Meeting the requirements allows the declaration envelope to be opened and the ballot papers within to be admitted to the count. Requirements vary by vote type, but include that the elector is enrolled and that the declaration vote envelope has been appropriately signed and witnessed.</p>
Formality rate	<p>The proportion of ballot papers marked according to the rules of the election (and can therefore be counted towards the election results).</p>
Informal vote	<p>A ballot paper which has been placed in the ballot box but was incorrectly completed or not completed at all. Informal votes are not counted in the election of a candidate.</p>

Term	Definition
Informality rate	The proportion of ballot papers not marked according to the rules of the election (and cannot therefore be counted towards the election).
Ordinary vote	Ordinary votes comprise: <ul style="list-style-type: none"> ■ <i>Ordinary vote</i> – a vote cast by a voter on polling day at a polling place in the elector’s enrolled (home) division. ■ <i>Pre-poll ordinary vote</i> – a vote that is cast as an ordinary vote before polling day. Eligible electors are issued ballot papers that, once completed, are placed directly into a ballot box and are counted as ordinary votes on election night.
Postal vote	A declaration vote, returned to the AEC through the postal system.
Pre-poll declaration vote	A declaration vote lodged at a divisional office or pre-poll voting centre when the elector is unable to be marked off the roll. For pre-poll voting, an elector may not be marked off the roll if their name cannot be found on the roll, or if they are outside of their home division.
Pre-poll ordinary vote	See ordinary vote.
Provisional vote	A declaration vote cast by a person at a polling place when: <ul style="list-style-type: none"> ■ his or her name cannot be found on the certified list, ■ his or her name is marked on the certified list to indicate that he or she has already voted, ■ the relevant polling official has doubts regarding the voter’s identity, or ■ the voter is registered as a ‘silent elector’ whose address does not appear on the certified list.
Savings provisions	Administrative rules which allow votes which would otherwise be ruled informal to be admitted to the count as formal votes where the voter may have made an unintentional mistake on their ballot paper.
Scrutiny	The counting process for any votes at an Australian federal election. Ballot papers entering scrutiny are all those accepted into the count.
Turnout	The proportion of the eligible population who have cast a vote. This is measured as the total number of ballot papers entering scrutiny divided by the final enrolment figure, expressed as a percentage.

Appendix B. Explanation of informality categories in the 2016 Informal Ballot Paper Study

Informal ballots with a clear first preference

AnB1 and AnB0: Incomplete numbering

Category codes for informal ballot papers with incomplete numbering are listed as AnB1 and AnB0, where:

- n indicates which candidate the first preference on the ballot paper was assigned to, and
- B1 indicates ballot papers with a number '1' only.
- B0 indicates ballot papers with incomplete numbering other than number '1' only.

Coding notes

Ballots with incomplete numbering contain a sequence of numbers starting at '1', with no missing or repeated numbers, and two or more blank squares (e.g. for a ballot paper with five candidates, this could be a number '1' and four blanks; a '1', '2' and three blanks, or a '1', '2', '3' and two blanks). Ballots with incomplete numbering and other forms of informality (e.g. scribbles, slogans or voter identification) are coded as incomplete numbering.

AnC: Ticks and crosses (first preference clear)

Informal ballot papers assigned to category codes AnC use a tick or cross in place of a number '1' for the first preference. The n in these codes is a number indicating which candidate the first preference was assigned to.

Coding notes

Categories AnC include ballots where the voter has:

- used numbers (other than '1') in all or some of the other squares (in combination with a tick or cross instead of the number '1'), or
- written other non-numeric symbols, slogans or scribbles on the ballot paper, in addition to a tick or cross instead of the number '1'.

Ballot papers containing both a tick and a number '1' are to be placed in category BI (for 'other' informal ballots with no first preference clear).

If two ticks, two crosses, or a tick and a cross are present on the ballot paper it cannot be placed in this category, as no first preference can be determined (depending on the content, it will be a BC, BF or BI ballot)

AnD: Other symbols (first preference clear)

Informal ballot papers assigned to category codes AnD show a clear first preference but use symbols other than numbers, e.g. alphabetic characters, zeros (0), or Yes/No indicators (note that numbers may also appear on these ballots).

Coding notes

- If only alphabetic characters have been used, the series must be incomplete or non-sequential as a complete alphabetic sequence on a ballot (e.g. A, B, C, D, E) on a ballot paper could be regarded as a formal vote. Ballot papers containing both a tick and a number '1' are to be placed in category BI (for 'other' informal ballots with no first preference clear).

AnE: Non-sequential numbering (first preference clear)

Informal ballot papers assigned to category codes AnE show a clear first preference (using a single number '1'), but have missing or repeated numbers among the remaining preferences. Ballot papers with non-sequential numbering may also contain one or more blank squares.

Coding notes

- Ballot papers with non-sequential numbering, and scribbles, slogans or voter identification should be coded as non-sequential.
- Ballot papers with non-sequential numbering and illegible numbers should be coded as illegible.

AnG: Illegible numbering (first preference clear)

Informal ballot papers assigned to category codes AnG show a clear first preference (using a single number '1'), but have illegible numbers for one or more of the other preferences.

Coding notes

- These categories include ballot papers that are illegible due to poor writing, or due to numbers being crossed out, written over or otherwise changed such that the voter's intention is not clear. It also includes cases where slogans have been written over numbers, or numbers have been written outside squares or between candidate names and it is not clear for whom the preference was intended.

AnH: Voter identified (first preference clear)

Ballot papers in category codes AnH are informal solely because the voter could be identified (i.e. in the opinion of the DRO, there was sufficient writing on the ballot paper to uniquely identify the voter).

As category AnH ballot papers are only informal due to voter identification, they will never be assigned a level 1 code of B (i.e. they will always have a clear first preference).

Coding notes

- Voter identification is subordinate to all other forms of informality - ballot papers that can be placed in any other category should not be placed in AnH categories. For example, an otherwise blank ballot paper containing voter identification would be placed in the BA category (for blank ballot papers).

AnI: Other informal ballots (first preference clear)

Ballot papers in category codes AnI show a clear first preference but do not fit into any other level 2 category. Every attempt should be made to classify an informal ballot paper to another category before placing it in an AnI category.

Coding notes

Examples of ballot papers that would be placed in an AnI category include apparently formal ballot papers within informal parcels, which have been deemed informal for reasons not apparent on the ballot paper. As election results have been declared prior to the conduct of this study, such ballot papers must be counted as informal but will not fit into other informality categories.

Informal ballot papers with no clear first preference

BA: Totally blank ballot papers

These ballot papers are TOTALLY BLANK, and have no other significant deliberate marks or scribble on them. Ballots which might have some small marks (e.g. a dot in one square) or identify the voter but are otherwise blank would also be included in this category (i.e. where it can reasonably be assumed that the intent of the voter was to submit a blank ballot).

Coding notes

- Ballot papers where the voter is identified but there are no other marks are to be placed in category BA
- Ballot papers that have no numbers or other marks recorded within the squares, but have scribble, slogans or other protest vote marks (e.g. illustrations, candidate names crossed out) elsewhere on the ballot paper are to be placed in category BF.

BC: Ticks and crosses (first preference not clear)

Ballot papers in category BC use a tick or cross instead of the number '1', but do not have a clear first preference. As such, they may contain multiple ticks and/or crosses.

Coding notes

Category BC includes ballots where the voter has:

- used both ticks and crosses, or
- written other symbols (e.g. alphabetic characters or zeros), slogans or scribbles on the ballot paper, in addition to ticks or crosses.

However,

- if ALL squares are marked with crosses (an apparent deliberate informal vote), the ballot paper should be treated as a protest vote and placed in category BF (scribbles, slogans and protest votes).
- if the ballot paper includes both a number '1' and a tick, it should be placed in category BI (other informal ballots, first preference not clear).

BD: Other symbols (first preference not clear)

Informal ballot papers assigned to category code BD use symbols other than numbers or ticks/crosses (e.g. alphabetic characters, zeros (0), or Yes/No indicators) and do not show a clear first preference.

Coding notes

- If ALL squares are marked with zeros or 'No' indicators, treat the ballot paper as a deliberately informal protest vote and place it in category BF (this is treated the same as if all candidates were crossed out etc.)
- Ballot papers that contain other symbols with no clear first preference, and that also have the voter identified or that contain illegible symbols are non-numeric symbols are to be counted as category BD.

BE: Non-sequential numbering (first preference not clear)

Informal ballot papers assigned to category codes BE contain non-sequential numbering (i.e. missing or repeated numbers within a sequence) and do not show a clear first preference. They may also contain one or more blank squares.

Coding notes

- If the voter has numbered all or most squares with the same number (e.g. '1', '9' or '99'), the ballot paper should be treated as a deliberate protest vote and placed in category BF (if in doubt, leave it in category BE).
- Ballot papers with non-sequential numbering, and scribbles, slogans or voter identification should be coded as non-sequential.
- Ballot papers with non-sequential numbering and illegible numbers should be coded as illegible.

BF: Scribbles, slogans and other protest vote marks

In essence, category BF can be thought of as 'frivolous' voting. It includes all ballot papers (other than those totally blank ballots in category BA) where the voter has apparently been very deliberate in casting an informal vote.

Note that this category does not include ballot papers where the voter appears to have made an unintentional error (e.g. through the use of incomplete or non-sequential numbering, or the use of ticks/crosses) and also added a scribble, slogan or other protest mark.

Coding notes

Category BF includes ballot papers where:

- there are zeros, slashes or crosses in all or most squares,
- squares are not marked or crossed through, but slogans, scribble/graffiti/drawings, vulgarity etc. has been written on the ballot,
- candidate names have been crossed out, or other candidate names have been written onto the ballot paper, or
- all or most squares on the ballot paper have the same number (e.g. '1', '9' or '99').

BG: Illegible numbering (first preference not clear)

Informal ballot papers assigned to category code BG do not show a clear first preference and have illegible numbers for one or more of the other preferences.

Coding notes

- This category includes ballot papers that are illegible due to poor writing, or due to numbers being crossed out, written over or otherwise changed such that the voter's intention is not clear. It also includes cases where slogans have been written over numbers, or numbers have been written outside squares or between candidate names and it is not clear for whom the preference was intended.

BI: Other informal ballots (first preference not clear)

Ballot papers in category code BI show a no clear first preference and do not fit into any other level 2 category. Every attempt should be made to classify an informal ballot paper to another category before placing it in an BI category.

Coding notes

Examples of ballot papers that would be placed in category BI include:

- Those with both a tick and a number '1', or a cross and a '1', or a '1' and other symbols that could indicate a first preference (e.g. "Y" or "A").
- Ballot papers allocated to the wrong division (e.g. in declaration counts).

Appendix C. Informality rates and relative socio-economic advantage/disadvantage, 2016 House of Representatives elections

State/ territory	Division	Informality rate %	Correlation with Index of Relative Socio-economic Advantage and Disadvantage	
			<i>r</i>	<i>r</i> ²
NSW	Banks	6.90	-0.65	0.43
NSW	Barton	8.35	-0.47	0.22
NSW	Bennelong	5.09	-0.62	0.38
NSW	Berowra	4.16	-0.40	0.16
NSW	Blaxland	11.55	*	*
NSW	Bradfield	3.55	-0.51	0.26
NSW	Calare	5.19	-0.53	0.28
NSW	Chifley	8.34	-0.58	0.34
NSW	Cook	5.17	-0.52	0.27
NSW	Cowper	5.15	-0.39	0.15
NSW	Cunningham	4.84	-0.68	0.46
NSW	Dobell	5.80	-0.57	0.33
NSW	Eden-Monaro	6.34	-0.53	0.29
NSW	Farrer	6.40	-0.45	0.20
NSW	Fowler	10.41	*	*
NSW	Gilmore	4.13	-0.53	0.28
NSW	Grayndler	6.73	-0.69	0.47
NSW	Greenway	7.56	-0.60	0.36
NSW	Hughes	4.40	*	*
NSW	Hume	5.30	*	*
NSW	Hunter	7.88	-0.46	0.21
NSW	Kingsford Smith	5.00	-0.78	0.61
NSW	Lindsay	11.77	-0.52	0.27
NSW	Lyne	4.59	-0.37	0.13
NSW	Macarthur	6.62	*	*
NSW	Mackellar	5.26	*	*
NSW	Macquarie	6.53	-0.37	0.14
NSW	McMahon	9.89	-0.55	0.30

State/ territory	Division	Informality rate %	Correlation with Index of Relative Socio-economic Advantage and Disadvantage	
			<i>r</i>	<i>r</i> ²
NSW	Mitchell	4.51	*	*
NSW	New England	7.04	-0.50	0.25
NSW	Newcastle	4.74	-0.66	0.44
NSW	North Sydney	4.76	-0.66	0.43
NSW	Page	3.84	*	*
NSW	Parkes	5.24	-0.47	0.22
NSW	Parramatta	9.26	-0.79	0.62
NSW	Paterson	4.89	-0.42	0.17
NSW	Reid	4.98	-0.61	0.37
NSW	Richmond	3.67	*	*
NSW	Riverina	4.61	-0.52	0.27
NSW	Robertson	5.03	*	*
NSW	Shortland	4.71	-0.59	0.35
NSW	Sydney	5.99	-0.76	0.57
NSW	Warringah	6.08	-0.70	0.49
NSW	Watson	10.65	-0.72	0.52
NSW	Wentworth	5.13	*	*
NSW	Werriwa	8.76	-0.53	0.28
NSW	Whitlam	5.41	-0.65	0.42
Vic.	Aston	3.96	-0.44	0.19
Vic.	Ballarat	5.29	-0.66	0.43
Vic.	Batman	7.78	-0.79	0.63
Vic.	Bendigo	4.60	-0.58	0.33
Vic.	Bruce	4.67	-0.80	0.65
Vic.	Calwell	6.54	-0.62	0.38
Vic.	Casey	3.78	-0.55	0.30
Vic.	Chisholm	2.74	-0.51	0.26
Vic.	Corangamite	5.00	-0.59	0.34
Vic.	Corio	4.61	-0.71	0.50
Vic.	Deakin	2.66	-0.46	0.21
Vic.	Dunkley	6.44	-0.73	0.53
Vic.	Flinders	3.66	-0.62	0.38

State/ territory	Division	Informality rate %	Correlation with Index of Relative Socio-economic Advantage and Disadvantage	
			<i>r</i>	<i>r</i> ²
Vic.	Gellibrand	4.02	-0.67	0.45
Vic.	Gippsland	6.87	-0.56	0.31
Vic.	Goldstein	2.46	-0.44	0.19
Vic.	Gorton	5.08	-0.63	0.40
Vic.	Higgins	3.78	-0.56	0.32
Vic.	Holt	5.00	-0.62	0.39
Vic.	Hotham	3.87	*	*
Vic.	Indi	6.53	-0.46	0.21
Vic.	Isaacs	3.69	-0.75	0.56
Vic.	Jagajaga	2.71	-0.71	0.50
Vic.	Kooyong	1.99	*	*
Vic.	La Trobe	5.56	-0.43	0.19
Vic.	Lalor	4.54	-0.40	0.16
Vic.	Mallee	4.65	-0.54	0.30
Vic.	Maribyrnong	4.64	-0.68	0.47
Vic.	McEwen	5.97	-0.54	0.29
Vic.	McMillan	5.71	-0.46	0.21
Vic.	Melbourne	2.48	-0.71	0.50
Vic.	Melbourne Ports	4.24	*	*
Vic.	Menzies	5.02	-0.41	0.17
Vic.	Murray	8.84	-0.63	0.4
Vic.	Scullin	5.12	-0.76	0.58
Vic.	Wannon	3.96	-0.42	0.18
Vic.	Wills	6.75	-0.83	0.69
Qld	Blair	5.67	*	*
Qld	Bonner	3.06	-0.49	0.24
Qld	Bowman	3.81	-0.49	0.24
Qld	Brisbane	2.39	-0.48	0.23
Qld	Capricornia	3.55	*	*
Qld	Dawson	4.55	*	*
Qld	Dickson	3.37	-0.64	0.41
Qld	Fadden	4.53	*	*

State/ territory	Division	Informality rate %	Correlation with Index of Relative Socio-economic Advantage and Disadvantage	
			<i>r</i>	<i>r</i> ²
Qld	Fairfax	6.23	*	*
Qld	Fisher	6.85	*	*
Qld	Flynn	6.19	-0.43	0.19
Qld	Forde	5.07	*	*
Qld	Griffith	4.06	-0.58	0.34
Qld	Groom	3.57	-0.57	0.32
Qld	Herbert	6.88	-0.62	0.38
Qld	Hinkler	4.58	*	*
Qld	Kennedy	3.82	-0.46	0.21
Qld	Leichhardt	7.32	-0.82	0.68
Qld	Lilley	2.92	-0.51	0.26
Qld	Longman	8.53	-0.40	0.16
Qld	Maranoa	5.53	*	*
Qld	McPherson	4.47	*	*
Qld	Moncrieff	4.46	-0.37	0.14
Qld	Moreton	4.11	-0.65	0.42
Qld	Oxley	4.01	-0.61	0.37
Qld	Petrie	4.02	-0.58	0.33
Qld	Rankin	5.76	-0.63	0.4
Qld	Ryan	2.39	-0.45	0.21
Qld	Wide Bay	5.00	*	*
Qld	Wright	4.31	*	*
WA	Brand	4.22	-0.45	0.21
WA	Burt	4.42	-0.54	0.30
WA	Canning	4.24	*	*
WA	Cowan	5.47	-0.64	0.41
WA	Curtin	2.02	-0.74	0.55
WA	Durack	3.91	*	*
WA	Forrest	5.86	-0.63	0.40
WA	Fremantle	4.00	-0.66	0.43
WA	Hasluck	4.04	-0.68	0.46
WA	Moore	3.20	-0.71	0.51

State/ territory	Division	Informality rate %	Correlation with Index of Relative Socio-economic Advantage and Disadvantage	
			<i>r</i>	<i>r</i> ²
WA	O'Connor	3.81	-0.44	0.19
WA	Pearce	4.55	*	*
WA	Perth	3.77	-0.79	0.62
WA	Stirling	4.15	-0.80	0.65
WA	Swan	3.63	-0.66	0.43
WA	Tangney	2.55	-0.63	0.40
SA	Adelaide	3.16	-0.81	0.65
SA	Barker	4.28	-0.45	0.2
SA	Boothby	4.39	-0.72	0.51
SA	Grey	3.87	*	*
SA	Hindmarsh	4.14	-0.66	0.44
SA	Kingston	3.73	-0.59	0.35
SA	Makin	4.44	-0.72	0.52
SA	Mayo	2.89	-0.52	0.27
SA	Port Adelaide	5.81	-0.39	0.15
SA	Sturt	3.78	-0.74	0.54
SA	Wakefield	5.39	-0.73	0.53
Tas.	Bass	3.96	-0.57	0.33
Tas.	Braddon	5.23	*	*
Tas.	Denison	2.92	-0.86	0.73
Tas.	Franklin	3.40	-0.69	0.47
Tas.	Lyons	4.43	-0.48	0.23
ACT	Canberra	2.71	-0.45	0.20
ACT	Fenner	2.82	-0.50	0.25
NT	Lingiari	7.85	-0.72	0.51
NT	Solomon	6.95	-0.58	0.34

(Australian Bureau of Statistics, 2018; Australian Electoral Commission, 2016f)

* Absolute value of the correlation coefficient was below the reporting threshold of 0.35.

Appendix D. Informal votes by category and state/territory, 2016 House of Representatives elections

New South Wales

Category	Clear first preference no.	No clear first preference no.	Total		Informality rate %
			No.	%	
Totally blank	..	72,672	72,672	25.3	1.56
Incomplete numbering	85,783	..	85,783	29.9	1.84
<i>Number '1' only</i>	56,131	..	56,131	19.6	1.21
<i>Other incomplete numbering</i>	29,652	..	29,652	10.3	0.64
Ticks and crosses	24,716	2,958	27,674	9.6	0.59
Other symbols	3,115	603	3,718	1.3	0.08
Non-sequential numbering	26,969	8,976	35,945	12.5	0.77
Scribbles, slogans and other protest vote marks	..	46,377	46,377	16.2	1.00
Illegible numbering	4,599	3,261	7,860	2.7	0.17
Voter identified	22	..	22	0.0	0.00
Other	2,220	4,808	7,028	2.4	0.15
Total	147,424	139,655	287,079	100.0	6.17

Victoria

Category	Clear first preference no.	No clear first preference no.	Total		Informality rate %
			No.	%	
Totally blank	..	41,857	41,857	24.3	1.16
Incomplete numbering	36,220	..	36,220	21.0	1.00
<i>Number '1' only</i>	14,971	..	14,971	8.7	0.41
<i>Other incomplete numbering</i>	21,249	..	21,249	12.3	0.59
Ticks and crosses	8,263	1,458	9,721	5.6	0.27
Other symbols	2,360	459	2,819	1.6	0.08
Non-sequential numbering	26,512	8,442	34,954	20.3	0.97
Scribbles, slogans and other protest vote marks	..	36,809	36,809	21.4	1.02
Illegible numbering	3,471	2,108	5,579	3.2	0.15
Voter identified	19	..	19	0.0	0.00
Other	1,021	3,170	4,191	2.4	0.12
Total	77,866	94,303	172,169	100.0	4.77

Queensland

Category	Clear first preference no.	No clear first preference no.	Total		Informality rate %
			No.	%	
Totally blank	..	27,767	27,767	21.1	0.99
Incomplete numbering	40,107	..	40,107	30.4	1.43
<i>Number '1' only</i>	20,067	..	20,067	15.2	0.72
<i>Other incomplete numbering</i>	20,040	..	20,040	15.2	0.71
Ticks and crosses	6,280	983	7,263	5.5	0.26
Other symbols	2,141	326	2,467	1.9	0.09
Non-sequential numbering	16,367	3,834	20,201	15.3	0.72
Scribbles, slogans and other protest vote marks	..	27,392	27,392	20.8	0.98
Illegible numbering	2,517	1,074	3,591	2.7	0.13
Voter identified	33	..	33	0.0	0.00
Other	767	2,134	2,901	2.2	0.10
Total	68,212	63,510	131,722	100.0	4.70

Western Australia

Category	Clear first preference no.	No clear first preference no.	Total		Informality rate %
			No.	%	
Totally blank	..	16,288	16,288	29.3	1.17
Incomplete numbering	9,155	..	9,155	16.4	0.66
<i>Number '1' only</i>	6,720	..	6,720	12.1	0.48
<i>Other incomplete numbering</i>	2,435	..	2,435	4.4	0.17
Ticks and crosses	4,889	439	5,328	9.6	0.38
Other symbols	704	135	839	1.5	0.06
Non-sequential numbering	4,615	1,881	6,496	11.7	0.47
Scribbles, slogans and other protest vote marks	..	14,448	14,448	26.0	1.04
Illegible numbering	493	481	974	1.7	0.07
Voter identified	20	..	20	0.0	0.00
Other	506	1,615	2,121	3.8	0.15
Total	20,382	35,287	55,669	100.0	3.99

South Australia

Category	Clear first preference no.	No clear first preference no.	Total		Informality rate %
			No.	%	
Totally blank	..	12,938	12,938	28.5	1.19
Incomplete numbering	7,231	..	7,231	15.9	0.67
<i>Number '1' only</i>	4,505	..	4,505	9.9	0.41
<i>Other incomplete numbering</i>	2,726	..	2,726	6.0	0.25
Ticks and crosses	3,192	590	3,782	8.3	0.35
Other symbols	669	87	756	1.7	0.07
Non-sequential numbering	6,434	1,746	8,180	18.0	0.75
Scribbles, slogans and other protest vote marks	..	10,034	10,034	22.1	0.92
Illegible numbering	600	430	1,030	2.3	0.09
Voter identified	19	..	19	0.0	0.00
Other	389	1,076	1,465	3.2	0.13
Total	18,534	26,901	45,435	100.0	4.18

Tasmania

Category	Clear first preference no.	No clear first preference no.	Total		Informality rate %
			No.	%	
Totally blank	..	4,399	4,399	31.6	1.26
Incomplete numbering	1,750	..	1,750	12.6	0.50
<i>Number '1' only</i>	1,261	..	1,261	9.1	0.36
<i>Other incomplete numbering</i>	489	..	489	3.5	0.14
Ticks and crosses	440	98	538	3.9	0.15
Other symbols	265	42	307	2.2	0.09
Non-sequential numbering	1,510	464	1,974	14.2	0.56
Scribbles, slogans and other protest vote marks	..	4,298	4,298	30.9	1.23
Illegible numbering	222	147	369	2.6	0.11
Voter identified	4	..	4	0.0	0.00
Other	101	186	287	2.1	0.08
Total	4,292	9,634	13,926	100.0	3.98

Australian Capital Territory

Category	Clear first preference no.	No clear first preference no.	Total		Informality rate %
			No.	%	
Totally blank	..	2,162	2,162	30.1	0.83
Incomplete numbering	1,080	..	1,080	15.0	0.42
<i>Number '1' only</i>	907	..	907	12.6	0.35
<i>Other incomplete numbering</i>	173	..	173	2.4	0.07
Ticks and crosses	452	73	525	7.3	0.20
Other symbols	108	10	118	1.6	0.05
Non-sequential numbering	224	278	502	7.0	0.19
Scribbles, slogans and other protest vote marks	..	2,449	2,449	34.1	0.94
Illegible numbering	50	86	136	1.9	0.05
Voter identified	0	..	0	0.0	0.00
Other	19	194	213	3.0	0.08
Total	1,933	5,252	7,185	100.0	2.76

Northern Territory

Category	Clear first preference no.	No clear first preference no.	Total		Informality rate %
			No.	%	
Totally blank	..	1,160	1,160	15.0	1.10
Incomplete numbering	1,857	..	1,857	24.0	1.77
<i>Number '1' only</i>	531	..	531	6.9	0.50
<i>Other incomplete numbering</i>	1,326	..	1,326	17.2	1.26
Ticks and crosses	212	78	290	3.8	0.28
Other symbols	96	16	112	1.4	0.11
Non-sequential numbering	2,329	434	2,763	35.7	2.63
Scribbles, slogans and other protest vote marks	..	1,126	1,126	14.6	1.07
Illegible numbering	131	65	196	2.5	0.19
Voter identified	0	..	0	0.0	0.00
Other	61	165	226	2.9	0.21
Total	4,686	3,044	7,730	100.0	7.35

Total

Category	Clear first preference no.	No clear first preference no.	Total		Informality rate %
			No.	%	
Totally blank	..	179,243	179,243	24.9	1.26
Incomplete numbering	183,183	..	183,183	25.4	1.28
<i>Number '1' only</i>	105,093	..	105,093	14.6	0.74
<i>Other incomplete numbering</i>	78,090	..	78,090	10.8	0.55
Ticks and crosses	48,444	6,677	55,121	7.6	0.39
Other symbols	9,458	1,678	11,136	1.5	0.08
Non-sequential numbering	84,960	26,055	111,015	15.4	0.78
Scribbles, slogans and other protest vote marks	..	142,933	142,933	19.8	1.00
Illegible numbering	12,083	7,652	19,735	2.7	0.14
Voter identified	117	..	117	0.0	0.00
Other	5,084	13,348	18,432	2.6	0.13
Total	343,329	377,586	720,915	100.0	5.05

References

- Australian Bureau of Statistics. (2017, November). General Community DataPacks, 2016 Census of Population and Housing. Retrieved April 19, 2018, from <http://www.abs.gov.au/websitedbs/D3310114.nsf/home/2016%20DataPacks>
- Australian Bureau of Statistics. (2018, March 27). *Census of Population and Housing: Socio-Economic Indexes for Areas (SEIFA), Australia, 2016*. ABS cat. no 2033.0.55.001. Retrieved April 19, 2018, from <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/2033.0.55.0012016?OpenDocument>
- Australian Election Study. (2016). *About the Australian Election Study*. Retrieved December 20, 2016, from <https://australianelectionstudy.org/about.html>
- Australian Electoral Commission. (1985a). *Informal Voting 1984, House of Representatives*. Research Report No. 1 of 1985. Canberra: Australian Government Publishing Service.
- Australian Electoral Commission. (1985b). *Informal Voting 1984, House of Representatives: Statistics*. Research Report No. 2 of 1985. Canberra: Australian Government Publishing Service.
- Australian Electoral Commission. (2003a). Informal Ballot Paper Survey, 2001 House of Representatives elections.
- Australian Electoral Commission. (2003b). *Informal Vote Survey House of Representatives 2001 Election*. Research Report No. 1, R. Medew, Research Section. Retrieved November 21, 2016, from http://www.aec.gov.au/About_AEC/research/paper1/index.htm
- Australian Electoral Commission. (2005a, October). *Analysis of Informality During the House of Representatives 2004 Election*. Research Report No. 7, G. Dario, Research Section. Retrieved November 21, 2016, from http://www.aec.gov.au/About_AEC/research/paper7/index.htm
- Australian Electoral Commission. (2005b). Informal Ballot Paper Survey, 2004 House of Representatives elections.
- Australian Electoral Commission. (2009a, December 22). *2009 Redistribution of New South Wales into Electoral Divisions*. Canberra: AEC. Retrieved November 21, 2016, from

<http://www.aec.gov.au/Electorates/Redistributions/2009/nsw/final-report/files/final-report-nsw.pdf>

Australian Electoral Commission. (2009b, June). *Analysis of Informal Voting, House of Representatives 2007 Election*. Research Report No. 11. Retrieved November 21, 2016, from http://www.aec.gov.au/About_AEC/research/paper_11/index.htm

Australian Electoral Commission. (2011a). Informal Ballot Paper Study, 2010 House of Representatives elections.

Australian Electoral Commission. (2011b, March 29). *Analysis of Informal Voting, House of Representatives, 2010 Federal Election*. Retrieved November 21, 2016, from http://www.aec.gov.au/About_AEC/research/paper12/index.htm

Australian Electoral Commission. (2011c). Submission no. 87 to the Joint Standing Committee on Electoral Matters. *Inquiry into the conduct of the 2010 Federal Election and matters related thereto*. Retrieved November 21, 2016, from http://www.aec.gov.au/Elections/australian_electoral_system/jscem/index.htm

Australian Electoral Commission. (2013). *Virtual Tally Room, The Official 2013 Election Results*. Retrieved November 8, 2016, from <http://results.aec.gov.au/17496/Website/Default.htm>

Australian Electoral Commission. (2016a, March 15). *Analysis of informal voting, 2013 House of Representatives elections*. Research Report No. 13. Retrieved February 3, 2017, from http://www.aec.gov.au/About_AEC/research/paper13.htm

Australian Electoral Commission. (2016b, August 8). *Federal, state and territory election dates from 1946 to the present*. Retrieved December 20, 2016, from AEC: http://www.aec.gov.au/Elections/Australian_Electoral_History/Federal_State_and_Territory_elections_dates_1946_Present.htm

Australian Electoral Commission. (2016c). Historical Election Statistics Archive. Strategic Research and Analysis Section, Internal electronic resource.

Australian Electoral Commission. (2016d). Informal Ballot Paper Study, 2013 House of Representatives elections.

Australian Electoral Commission. (2016e, August 25). *Previous redistributions*. Retrieved April 20, 2018, from AEC: <http://www.aec.gov.au/Electorates/Redistributions/dates.htm>

Australian Electoral Commission. (2016f). *Tally Room, 2016 Federal Election*. Retrieved April 20, 2018, from <http://results.aec.gov.au/20499/Website/HouseDefault-20499.htm>

- Australian Electoral Commission. (2017a, January 6). *Redistributions*. Retrieved February 17, 2017, from AEC: <http://www.aec.gov.au/Electorates/Redistributions/index.htm>
- Australian Electoral Commission. (2017b). *Tally Room, 2017 New England By-election*. Retrieved from <https://results.aec.gov.au/21364/Website/HouseDivisionPage-21364-135.htm>
- Australian Electoral Commission. (2017c). *Tally Room, 2017 Bennelong By-election*. Retrieved from <https://results.aec.gov.au/21379/Website/HouseDivisionPage-21379-105.htm>
- Australian Electoral Commission. (2018a). Informal Ballot Paper Study, 2016 House of Representatives elections.
- Australian Electoral Commission. (2018b). Informal Ballot Paper Study, 2018 Fremantle and Longman by-elections.
- Australian Electoral Commission. (2018c). *Tally Room, 2018 Batman By-election*. Retrieved from <https://results.aec.gov.au/21751/Website/HouseDivisionPage-21751-199.htm>
- Australian Electoral Commission. (2018d). *Tally Room, 2018 Braddon By-election*. Retrieved from <https://results.aec.gov.au/22692/Website/HouseDivisionPage-22692-193.htm>
- Australian Electoral Commission. (2018e). *Tally Room, 2018 Fremantle By-election*. Retrieved from <https://results.aec.gov.au/22693/Website/HouseDivisionPage-22693-240.htm>
- Australian Electoral Commission. (2018f). *Tally Room, 2018 Longman By-election*. Retrieved from <https://results.aec.gov.au/22694/Website/HouseDivisionPage-22694-302.htm>
- Australian Electoral Commission. (2018g). *Tally Room, 2018 Mayo By-election*. Retrieved from <https://results.aec.gov.au/22695/Website/HouseDivisionPage-22695-188.htm>
- Australian Electoral Commission. (2018h). *Tally Room, 2018 Perth By-election*. Retrieved from <https://results.aec.gov.au/22696/Website/HouseDivisionPage-22696-245.htm>
- Australian Electoral Commission. (2018i). *Tally Room, 2018 Wentworth By-election*. Retrieved from <https://tallyroom.aec.gov.au/HouseDivisionPage-22844-152.htm>
- Australian National University. (2016, December 20). Voter interest hits record low in 2016 - ANU Election Study. *Newsroom*. Retrieved December 20, 2016, from <http://www.anu.edu.au/news/all-news/voter-interest-hits-record-low-in-2016-anu-election-study>
- Buxon, J. (2016). Submission no. 12 to the Joint Standing Committee on Electoral Matters. *Inquiry into the conduct of the 2016 federal election and matters related thereto*. Retrieved November

23, 2016, from Parliament of Australia:

http://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Electoral_Matters/2016Election/Submissions

Department of the Prime Minister and Cabinet. (2009). *Electoral reform green paper : strengthening Australia's democracy*. Canberra.

Elections ACT. (2016, May 26). *Formality of ballot papers*. Retrieved April 20, 2018, from https://www.elections.act.gov.au/elections_and_voting/formality_of_ballot_papers

Electoral Commission New South Wales. (n.d.). *Legislative Assembly Data Entry Rules*. Retrieved April 20, 2018, from pastvtr.elections.nsw.gov.au/SB1701/la/LA%20Formality%20Rules%20for%20Data%20Entry%20v3.pdf

Electoral Commission Queensland. (2015). *Voting System*. Retrieved April 20, 2018

Electoral Commission Queensland. (2016). *Full Preferential Voting*. Retrieved April 19, 2018, from <https://www.ecq.qld.gov.au/voters-and-voting/voting-system/full-preferential-voting>

Electoral Commission SA. (n.d.). *Counting the votes for the House of Assembly*. Retrieved April 19, 2018, from <https://www.ecsa.sa.gov.au/elections/counting-the-votes-for-the-house-of-assembly?highlight=WyJwcmVmZXJlbnRpYWwiXQ==>

Lundle, R. (2016, September 1). 'So when is the next election?' *Australian elections timetable as at 1 September 2016*. Parliamentary Library, Politics and Public Administration Section. Retrieved April 20, 2018, from https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/rp/rp1617/AustralianElectionsTimetable#_Toc460249636

McAllister, I., & Cameron, S. M. (2016). *Trends in Australian political opinion: results from the Australian election study, 1987-2016*. Canberra: Australian National University. Retrieved December 20, 2016, from <https://australianelectionstudy.org/>

Northern Territory Electoral Commission. (2015, December). *Information Paper: Electoral Legislation Amendment Bill (2015)*. Retrieved April 20, 2018, from [http://www.ntec.nt.gov.au/media/Newsroom/Documents/Information%20Paper-Electoral%20Legislation%20Amendment%20Bill%20\(2015\).pdf](http://www.ntec.nt.gov.au/media/Newsroom/Documents/Information%20Paper-Electoral%20Legislation%20Amendment%20Bill%20(2015).pdf)

Northern Territory Electoral Commission. (2017). *Legislative Assembly Elections*. Retrieved April 19, 2018, from

<http://www.ntec.nt.gov.au/ElectionsAndReferendums/LegislativeAssemblyElections/Pages/default.aspx>

Tasmanian Electoral Commission. (2017). *Information for candidates, House of Assembly elections*. Retrieved April 20, 2018, from https://www.tec.tas.gov.au/House_of_Assembly_Elections/assets/House-of-Assembly-Candidate-Manual.pdf

Tasmanian Electoral Commission. (2018). *Tasmania's Hare-Clark Electoral System*. Retrieved April 19, 2018, from <https://www.tec.tas.gov.au/Info/Publications/HareClark.html>

Western Australian Electoral Commission. (2018a). *Formality of Ballot Papers*. Election 2018. Retrieved April 20, 2018, from https://www.elections.wa.gov.au/sites/default/files/content/Documents%202018%20by-election/2018_Formality%20of%20Ballot%20Papers_final_print_version.pdf

Western Australian Electoral Commission. (2018b). *Voting Systems in WA*. Retrieved April 19, 2018, from <https://www.elections.wa.gov.au/vote/voting-systems-wa>

End notes

¹ A ballot paper to which this situation applies is formal if the Divisional Returning Officer (DRO) responsible for considering the question of the formality of the ballot paper is satisfied that it is an authentic ballot paper on which a voter has marked a vote. In these instances the officer endorses the ballot paper with the words 'I am satisfied that this ballot paper is an authentic ballot paper on which a voter has marked a vote.'

² If informal parcels for the division being processed contained any ballot papers relating to an incorrect division, these were assigned to informality category BI (other ballots, no clear first preference), regardless of any other characteristics. This was done to ensure that any later analyses of assumed unintentional informality only included ballot papers for the relevant division(s).

³ Some additional categories of informal ballot papers (such as those identifying the candidate of first preference or the number or indicating the number of preferences expressed on a ballot) were used for analytical purposes, but are not included in tables showing IBPS results by informality category.

⁴ Additional analytical categories were generated for ballot papers with incomplete or non-sequential numbering in the form $AnBm$ and $AnEm$, where n represents the ballot paper position of the candidate of first preference, and m represents the number of consecutive preferences (starting at '1') shown on the ballot paper.

⁵ A redistribution is a redrawing of electoral boundaries to ensure that, as near as practicable, each state and territory gains representation in the House of Representatives in proportion to their population, and there are a similar number of electors in each electoral division for a given state or territory. A redistribution is required when:

- the number of members in the House of Representatives to which a state or territory is entitled has changed (population change),
- the number of electors in more than a third of the electoral divisions in a state (or one of the electoral divisions in the Australian Capital Territory or Northern Territory) deviates from the average divisional enrolment by over ten per cent for a period of more than two months, or
- a period of seven years has elapsed since the last redistribution. (Australian Electoral Commission, 2017a)

⁶ For the 2013 and 2016 IBPS, these broad categories were divided into informal ballots showing a clear first preference (assumed to be unintentionally informal) and informal ballots showing no clear first preference (assumed to be intentionally informal).

⁷ For the 2001 House of Representatives Informal Ballot Paper Survey (as the IBPS was then known), ballots with incomplete numbering other than a number '1' only were counted as 'Other' informal ballots.

⁸ Candidate of first preference information is available for informality studies conducted in 2016, 2013 and 2010 only.

⁹ For the 2001 IBPS, informal ballot papers with other symbols were counted as 'Other' informal ballots.

¹⁰ For the 2001 IBPS, counts of informal ballot papers with non-sequential numbering were included in the categories for 'Langer Style votes' and 'Non-sequential votes'. Langer Style votes refer to ballots with preferences marked in the pattern '1, 2, 3, 3, 3...'.¹¹

¹¹ The 'Marks' category in the 2001 IBPS referred to ballot papers with no preferences, or partial preferences, where there were slogans, written comments or marks on the ballot paper.

¹² The 'Slogans making numbers illegible' category in the 2001 IBPS referred to all those ballot papers where slogans, writing or comments had been made and the words or marks interfered with the preferences in such a way that the numbering could not be deciphered.

¹³ The 'Other' category in the 2001 IBPS contained informal ballot papers that could not be categorised into any of the other categories used. Typically, it consisted of ballot papers that had insufficient preferences expressed (that is, those that were placed in categories for other incomplete numbering in later studies).

¹⁴ The AEC uses the term 'mark-off' to refer to administrative data that either indicate attendance at a polling place, or the receipt of a declaration vote. While administrative records include names, addresses, genders and dates of birth, mark-off data used for analytical purposes are de-identified, with names removed and addresses generalised to the SA1 recorded for each address. Addresses for silent electors are further de-identified by being assigned dummy SA1s.

¹⁵ Of the informal ballots at the 1984 House of Representatives elections, 44.6 per cent contained a unique first preference but had insufficient numbers, while 30.7 per cent contained ticks, crosses or some numbers (but no first preference) and 16.8 per cent were totally blank. While statistics on ballots with a '1' only are not available, the high proportion of ballots with incomplete numbering is likely to be due in part to voter confusion resulting from the introduction of above the line voting in the 1984 Senate elections. (Australian Electoral Commission, 1985a; 1985b)

¹⁶ A preliminary scrutiny process is applied to all declaration votes, whereby the voter's declaration envelope is checked for a range of requirements. The requirements allow the declaration envelope to be opened and the ballot papers within to be admitted to the count. Requirements vary by vote type, but include that the elector is enrolled and that the declaration vote envelope has been appropriately signed and witnessed.

¹⁷ Pre-poll ordinary voting was introduced as a result of legislative change after the 2007 federal election.

¹⁸ Includes votes cast with mobile polling teams. Figures for 2013 and 2016 include ordinary votes cast at pre-poll voting centres and AEC divisional offices where voters could cast pre-poll votes. Excludes polling places or teams where fewer than 100 votes in total were cast.

¹⁹ Comparisons of informal voting in this table will be impacted by redistributions of electoral boundaries for New South Wales (in 2005, 2009 and 2016), Victoria (in 2002 and 2010), Queensland (in 2003, 2005 and 2009), Western Australia (in 2008 and 2016) and the Australian Capital Territory (in 2005 and 2016). (Australian Electoral Commission, 2016e)

²⁰ As part of the 2009 redistribution of electoral boundaries in New South Wales, the division of Prospect was re-named 'McMahon' (Australian Electoral Commission, 2009a). Figures for 2001, 2004 and 2007 refer to the division of Prospect.

²¹ Note that this category does not include ballot papers where the voter showed a clear first preference (e.g. through the use of incomplete or non-sequential numbering, or the use of ticks/crosses) and also added a scribble, slogan or protest vote mark.

²² Ballot papers showing ticks in all boxes, or crosses in all boxes were classified as protest votes, and were therefore assigned to category BF (scribbles, slogans and other protest vote marks) rather than category BC (ballots with ticks and crosses but no clear first preference).

²³ This is sometimes termed a 'Langer' vote (named after Albert Langer, a political activist who encouraged electors to use it as a form of optional preferential voting). An example of a Langer style vote would be a ballot paper with six preferences numbered 1, 2, 3, 4, 4, 4. Since 1998, Langer style votes on House of Representatives ballots have been counted as informal. Prior to the 1998 federal election, Langer style votes on House of Representatives ballots would have been counted up to the point the numbering became non-sequential. (Australian Electoral Commission, 2003b)

²⁴ The methodological changes implemented for the 2016 IBPS (in particular, the use of scanned ballot images) may have impacted on counts of illegible ballots. For example, numbers in scanned images were too faint to read or had been overwritten to the point that the final choice could not be discerned. Improvements to the scanning process will be investigated for future informality studies to minimise this impact.

²⁵ Figures for informal ballots with other symbols, illegible numbering and 'other' informal ballot papers have been combined in these tables.

²⁶ Even though the names of the broad informality categories have not changed since 2004, figures from 2013 onwards represent a break in series due to major changes in informality categories and processes implemented for the 2013 and 2016 IBPS. Comparisons of figures for 2013 or 2016 with those from previous years are therefore not recommended.

²⁷ The 2007 IBPS was not conducted for three polling places in the division of Melbourne. A total of 219 informal ballot papers were therefore not assigned to informality categories.

²⁸ Includes ballots containing illegible numbering or other symbols.

²⁹ Refers to the ten divisions with the highest levels of informal voting at the 2016 House of Representatives elections. Comparisons are therefore impacted by redistributions of electoral boundaries for New South Wales (in 2005, 2009 and 2016), Victoria (in 2002 and 2010) and Queensland (in 2003, 2005 and 2009) (Australian Electoral Commission, 2016e)

³⁰ Prior to the 2013 IBPS, informal ballots with incomplete numbering, non-sequential numbering, ticks and crosses and those where the voter had been identified were assumed to be unintentionally informal. All other informal ballots (including totally blank ballots and those with scribbles, slogans or other protest vote marks) were assumed to be intentionally informal.

³¹ For the 2001 IBPS, ballots with incomplete numbering (other than a number '1' only) were counted as 'Other' informal ballots and are therefore included within counts of ballots assumed to be intentionally informal.

³² Regression analysis showed that the informality rate for ballot papers assumed to be unintentionally informal explained about 88 per cent of the total informality rate ($\beta = 1.266$, $p = 0.000$, $R^2 = 0.883$, 95% level of confidence).

³³ Regression analysis showed that the informality rate for ballot papers assumed to be intentionally informal explained about 59 per cent of the total informality rate ($\beta = 1.940$, $p = 0.000$, $R^2 = 0.587$, 95% level of confidence).

³⁴ Refers to the ten divisions with the highest levels of informal voting and the ten divisions with the lowest levels of informal voting at the 2016 House of Representatives elections.

³⁵ Since 1993, the AES has asked respondents '*And how much interest would you say you took in the election campaign overall?*'. Response categories are '*A good deal*', '*Some*', '*Not much*' and '*None at all*'. (McAllister & Cameron, 2016)

³⁶ Australian National Political Attitudes Surveys conducted in 1969 and 1979 asked respondents '*On the whole, how do you feel about the state of government and politics in Australia. Would you say that you were very satisfied, fairly satisfied or not satisfied?*'. 23.4 per cent of respondents in 1969 and 44.5 per cent in 1979 indicated they were not satisfied.

The 1996 AES asked respondents '*On the whole, are you satisfied, fairly satisfied, not very satisfied or not at all satisfied with the way democracy works in Australia?*'.

Since 1998, the AES has asked '*On the whole are you very satisfied, fairly satisfied, not very satisfied or not at all satisfied with the way democracy works in Australia?*'. In the 2016 AES, 29.7 per cent of respondents were not very satisfied and 10.2 per cent were not at all satisfied. (McAllister & Cameron, 2016)

³⁷ Since 1993, the AES has asked respondents '*In general, do you feel that the people in government are all too interested in looking after themselves, or do you feel that they can be trusted to do the right thing nearly all the time?*' Response categories are '*Usually look after themselves*', '*Sometimes look after themselves*', '*Sometimes can be trusted to do the right thing*' and '*Usually can be trusted to do the right thing*'. Figures for trust in government combine the latter two categories (i.e. in 2016, 18.3 per cent of respondents sometimes trusted people in government to do the right thing, while 7.9 percent usually trusted them to do the right thing). (McAllister & Cameron, 2016)

³⁸ Australian National Political Attitudes Surveys conducted in 1969 and 1979 asked respondents '*In general, do you feel that the people in government are too often interested in looking after themselves, or do you feel that they can be trusted to do the right thing nearly all the time?*'. Response categories were '*Do the right thing*'

or *'Look after self'*. (Australian Election Study, 2016; Australian National University, 2016; McAllister & Cameron, 2016)

³⁹ Respondents who sometimes trusted people in government to do the right thing decreased from 27.6 per cent in 2007, to 28.5 per cent in 2010 and 23.1 per cent in 2013. Respondents who usually trusted people in government to do the right thing decreased from 15.3 per cent in 2007 to 8.4 per cent in 2010, then increased to 11.1 per cent in 2013. (McAllister & Cameron, 2016)

⁴⁰ Since 2001, the AES has asked respondents *'Some people say that no matter who people vote for, it won't make any difference to what happens. Other say that who people vote for can make a big difference to what happens. Using the scale below, where would you place yourself?'* A five point scale is used, with 1 being *'Who people vote for can make a big difference'* and 5 being *'Who people won't make any difference'*. At the 2016 AES, 10.1 per cent of respondents recorded a 4 and another 10.1 per cent recorded a 5. (McAllister & Cameron, 2016)

⁴¹ Since 1993, the AES has asked respondents *'In general, do you feel that the people in government are all too interested in looking after themselves or do you feel that they can be trusted to do the right thing nearly all the time?'* Response categories are *'Usually look after themselves'*, *'Sometimes look after themselves'*, *'Sometimes can be trusted to do the right thing'* and *'Usually can be trusted to do the right thing'*. (McAllister & Cameron, 2016)

⁴² The coefficient of correlation has a value between -1 and $+1$. A positive coefficient indicates that as one variable increases, so too does the other, while a negative coefficient indicates that as one variable increases, the other decreases.

⁴³ ABS 2016 SEIFA Index of Relative Socio-Economic Advantage and Disadvantage (IRSAD).

⁴⁴ Defined as Commonwealth electoral divisions whose population is largely within the Statistical Division of Sydney.

⁴⁵ While analysis of results from the 2016 House of Representatives elections found a relatively weak (but statistically significant) relationship between the numbers of candidates on the ballot paper and the total informality rate recorded in that division (r^2 of 0.21), analyses conducted for the 2013 and 2010 House of Representatives elections found no significant relationship between candidate numbers and overall informality.

⁴⁶ $\beta = 0.309$, $p = 0.000$, $R^2 = 0.702$ (95% level of confidence).

⁴⁷ $\beta = 0.204$, $p = 0.000$, $R^2 = 0.689$ (95% level of confidence).

⁴⁸ One square on the ballot box (representing the last preference) may be left blank.

⁴⁹ Optional preferential voting used to apply at Queensland Legislative Assembly elections, but was replaced by full preferential voting in April 2016. (Electoral Commission Queensland, 2016)

⁵⁰ While legislation does not explicitly provide for ballot papers with a tick or cross to be counted as formal, formality requirements produced by the WA Electoral Commission provide examples of some types of ballots containing ticks or crosses that may be regarded as formal. (Department of the Prime Minister and Cabinet, 2009; Western Australian Electoral Commission, 2018a)

⁵¹ One square (representing the last preference) may be left blank. Candidates may register a voting ticket. Ballot papers with only one preference, or a first preference and further consecutive preferences that are consistent with a candidate's registered voting ticket, will be taken to have been marked in accordance with the voting ticket. Where a ballot paper has not been marked as required but the voter's intention is clear, the ballot paper is not informal and will be counted. (Department of the Prime Minister and Cabinet, 2009)

⁵² A ballot paper will not be treated as informal if in the opinion of the returning officer the elector's intention is clear. A repetition of omission of a preference after the number 5 does not make the ballot paper informal. The preferences preceding the error on such ballot papers will be included in the scrutiny. (Tasmanian Electoral Commission, 2017)

⁵³ An ACT Legislative Assembly ballot paper is formal if it includes a unique first preference. (Elections ACT, 2016)

⁵⁴ Prior to February 2016, Northern Territory Legislative Assembly elections used full preferential voting. (Northern Territory Electoral Commission, 2015)

⁵⁵ Ballot papers with incomplete or non-sequential numbering (other than '1' to '6' informal papers) also declined. These were substantial reductions, but were overshadowed by the reduction in '1' to '6' informal papers. Such a decline would normally be associated with a reduction in the number of candidates, which did not occur at the by-election.

⁵⁶ Additionality may be affected by rounding.

⁵⁷ With the introduction of the new Senate voting system in 2016 the AEC ran an information campaign on the changes. In addition there was significant media attention to the topic. At the next general election the level of messaging is likely to return to a more normal level.