The problem of understanding and encouraging electoral participation has attracted significant attention from researchers and policy makers. Yet, there is a widespread assumption that in Australia the matter was effectively solved by the introduction of compulsory enrolment in 1911 and compulsory voting in 1924 (for example Johnston and Forrest 2009: 525), to the degree that the Australian electoral system is often presented as a ‘best-practice’ example in reform contexts (Hill 2004). Indeed, the consistently high levels of turnout at federal elections over the past three quarters of a century appear to support this conclusion. Voter turnout at federal general elections has averaged 94.9 percent since 1925, and has never dropped below the 91.3 percent recorded in that initial compulsory election. This strong trend has continued through to the present day, with turnout for the House of Representatives reaching a high of 95.8 percent in 1996 and averaging 94.4 percent over the subsequent five elections.

And yet, issues remain. The 2010 federal election returned a rate of 93.2 percent, the lowest since the 1954-1955 elections conducted against the backdrop of the Australian Labor Party schism. State and territory election turnout has exhibited similar trends, and at consistently lower levels. Over the past three decades, turnout peaked before the turn of the century
across all state and federal jurisdictions bar the Australian Capital Territory, with an average decline since those highs of three percent. Turnout cannot be considered in a vacuum either, and instead must be judged for what it is, just one of the three important facets of electoral participation, alongside enrolment and vote formality. These other measures are also in decline. The 2010 election saw informality increase by 1.6 percent to 5.6 percent, a result second-only to that observed in 1984—a spike attributed to the introduction of the above-the-line single-vote option on the Senate ballot paper. Likewise, it is now estimated that up to 1.5 million eligible Australians are absent from the commonwealth electoral roll, with as many as half of them never having been present (Australian National Audit Office 2010: 74-89). Taken in concert, these figures indicate that as many as one in five Australians are failing to formally participate in the electoral process.

Theories of Participation

To understand this trend and identify this missing twenty percent we must look to the research regarding exactly how and why individuals make the decision on whether or not to participate. The majority of this literature is grounded in public choice theory, and argues that individuals weigh up the relative costs inherent in and benefits deriving from electoral participation, and the respective probabilities of incurring or receiving them, in what Panagopoulos (2008) calls the ‘calculus of voting’. While this predominantly refers to material interests, it can also cover more holistic aspects such as altruistic voting or obedience to authority that are not dependent on the election outcome. In one of its simpler forms, this calculus is represented as $R = pB - C + D$, where $B$ represents the benefits of decisively influencing the election result, $p$ the probability of this occurring, and $C$ and $D$
the respective costs and benefits of participation, regardless of the result. Accordingly, if $R$ is positive, a rational actor is expected to participate. These costs and benefits can be broken down under two broad theoretical umbrellas.

The Resources Model of Participation (Verba & Nie 1972) holds that participation carries with it a number of resource costs. These costs are the time, material resources and cognitive abilities required by voters in order to educate themselves about their political system, candidates and issues, to enrol to vote, and to turn out and cast their vote on election day. Accordingly, individuals with higher levels of socio-economic status—through education, employment and income—can be expected to be more likely to be capable of addressing these costs, and therefore to exhibit correspondingly higher levels of electoral participation. By example, Sigelman et al. (1985), in their multi-election analysis of Kentuckian voters, found education, as measured on a scale ranging from no formal education to a university degree, to be one of the strongest predictors of electoral participation. This suggests that the theorised inherent cognitive costs of electoral participation present a very real and persistent barrier to entry. Economic status, as measured by total family income, did not yield a similarly strong relationship, however it has been theorised that rather than being a linear function of income, the effect of economic status on electoral participation is better understood as a binary difference between those who live in poverty and those who do not, with those individuals disadvantaged economically being significantly less likely to vote (Wolfinger and Rosenstone 1980, in Sigelman et al. 1985: 753). This is perhaps common sense, as the economic barriers to electoral participation should be relatively easily surmountable in industrialised liberal democracies.
Balanced against these costs, the benefits of participation under the Resources Model include any material benefits brought by the success of a voter’s chosen candidate, as well as the broader applicability of knowledge gained in the process of participation. However, this is a simplistic approach and does not stand up to scrutiny. As has been long-observed, the odds of any one particular individual casting the decisive vote in an election involving, at the local level tens or hundreds of thousands, are simply so low that the benefits simply cannot match the costs, seemingly rendering participation counter-productive (Ferejohn and Fiorina, 1974). One explanation lies in resource costs carried by non-participation. In the Australian context this most obviously comes in the form of the small fines—initially twenty to sixty dollars, depending on jurisdiction—levied on non-voters by the various electoral commissions. The existence of these sanctions is an integral element of compulsion. While the mere existence of a policy of compulsion has a minor impact on turnout (IDEA, 2002: 110), any significant impact is heavily dependent both on the severity of penalty and degree of enforcement (Panagopoulos 2008). A severe penalty rarely enforced does not have much impact, nor does an insignificant penalty even if strictly enforced. This is an important point, and one that I will return to.

However, as international elections demonstrate, in the absence of compulsion turnout is still far above zero. An alternate explanation lies in the Communitarian Model of Participation (Parry & Moyser 1984; Eagles & Erfles 1989). This theory argues that participation is motivated by two complementary pressures, those of community identification and community cohesion. Through the first, the value inherent in cooperative social relationships, sustained over time as community interaction and interdependence, develops in individuals a level of rational self-interest in the ongoing structure and wellbeing
of their immediate communities. Through the second, group pressures arise within these same communities, developing the idea of electoral participation as a ‘civic duty’. These effects extend beyond the confines of local communities and include broader norms such as national laws, explaining that small but immediate increase in participation when compulsory participation laws are introduced even without any associated punishments (IDEA, 2002: 110).

Based as it is on established community networks, social cohesion is intimately linked to issues of population stability. The effect expressive and instrumental ties within the neighbourhood have in developing social capital and fostering a sense of community between individuals has been noted (Bridge 2002: 6-7), as has the relationship between the length of an individual’s tenure in a neighbourhood and the quantity and strength of these ties (Bridge et al. 2004). Similarly, Forrest et al. (2002) noted a greater reported sense of community connectedness in areas with higher population stability. More practically, Geys (2006: 644) argued that sustained residency breeds a familiarity with local issues and candidates, while lower out-migration reduces the effect of voters neglecting to participate in local elections that will not affect them once they have moved on.

In combining these models, it is to be expected that marginalised, disengaged or disconnected segments of society, and those of low socio-economic status, should be less likely to participate in electoral processes. The reality of Australian electoral behaviour conforms to these expectations. Rather than the missing one in five being distributed evenly across the population, we instead observe patterns of under-representation among specific demographic groups. The young, elderly, indigenous, homeless, voters with disabilities and
those from non-English-speaking backgrounds all face structural barriers to electoral participation (JSCEM 2007).

**Responses & Residual Issues**

Accordingly, efforts to increase participation attempt to address the deficiencies identified by these models, through facilitating enrolment and voting and providing education on electoral processes. Enrolment programs focus on those facing difficulties complying with standard enrolment procedure, such as individuals with no fixed address or in remote rural areas, as well as on the young. These youth-oriented programs have traditionally focused on encouraging teenagers to enrol on or before their eighteenth birthdays, but have recently been extended to cover computerised direct enrolment in Victoria and New South Wales. Voting assistance is available to those with language issues or disabilities, while mobile polling teams attempt to ease access costs for those in hospitals, nursing homes, prisons or remote areas of Australia. Education programs are tailored to and targeted towards specific groups, as well as the broader population. These programs have been effective, but there is always more to accomplish. Our electoral commissions, while statutorily independent, are restricted in a number of ways. Most importantly they must comply with electoral law, which has, for example, limited their capacity to provide mobile polling booths in urban areas, as requested by advocates for homeless voters (JSCEM 2009), and has restricted the capacities of electoral commissions to adopt technological innovations such as electronic voting or direct enrolment.
Likewise, any projects must compete for scarce funding, and some services have suffered as a result. However, it is important to acknowledge that these, while serious, are relatively small-target issues. At a broader level, the AEC’s Continuous Roll Update system is proving more effective at getting voters off the roll than keeping them on it (Brent & Hoffman 2011: 24-25), and is progressively becoming more expensive and less effective (Australian National Audit Office 2010: 74-102), and while ideally financial outlay should not be a key factor in determining an electoral system, there are inevitably practical limits (Australian Government 2009: 22). This decline in efficiency has been variously attributed to increasing social mobility, a trend towards access-resistant urban development and declining trust in politicians (Brent & Jackman 2007; Goot 2002). And as we have seen, these issues are compounded by a continuing decline in participation.

A hint as to this decline can be found in the results of recent state by-elections. By-elections have traditionally exhibited slightly lower levels of turnout than full elections, at around eighty to eighty five percent of total enrolled voters. However, a number of recent by-elections have returned the lowest levels of turnout for several decades. These anomalous results have occurred across the country, but have as yet been confined to affluent inner-urban areas, with the 2007 Albert Park, Victoria by-election returning 70.7 percent, the 2007 Brisbane Central, Queensland by-election returning 67.7 percent and the 2006 Victoria Park, Western Australia by-election returning 64.0 percent. While these electoral districts exhibit higher levels of turnout in state-wide general elections than in by-elections, they are still markedly below their respective state averages. Similarly, while inner-metropolitan electoral districts exhibit lower average levels of turnout than outer-metropolitan, regional or rural districts, these affluent areas are a step again lower.
That these anomalous electorates share a similar geographic and demographic profile suggests that a single common trend may be the root cause of this turnout decline. This is of special interest and concern given that these affluent, inner-urban areas have traditionally been seen as among the most likely to return high levels of voter turnout. Instead, it now appears that those we might have expected to be most likely to turn out are instead now forming a new and significant under-represented group.

**Our Work**

Following this lead, with David Lazaridis of the Department of Mathematics and Statistics, University of Melbourne, I looked into the connection between demographic trends and turnout at the aggregate level. Employing demographic data from the 2006 Australian census and the results of the 2006 state elections in Victoria, South Australia and Queensland we investigated the relationships between demographic indicators of socio-economic status and social cohesion, and electoral participation in the form of voter turnout. The key demographic indicators employed were population age, ethnicity and background, stability, tenure type, citizenship, estimated electoral enrolment status, unemployment and professional and managerial employment.

Using a statistical multivariate regression technique known as Random Forests (Breiman 2001) we calculated the marginal effect each predictor had on the response—turnout—while all other predictors were fixed. The Random Forests technique was chosen due its ability to produce accurate predictions while remaining robust to overfitting. It can model basic nonlinear relationships where a standard linear model would not be suitable, while
also generating an accurate estimate of its own prediction error. An out of sample pseudo \( R^2 \) was calculated, with the model being found to explain approximately 76.1\% of the variation in turnout. Our Random Forests model had an in-sample pseudo \( R^2 \) of 0.96 whereas a standard linear model with the same variables obtained an \( R^2 \) of 0.83. Two importance metrics were used to measure how ‘important’ each predictor was for predicting the response. A description of these metrics can be found in Liaw and Wiener (2002).

[See Figure 1]

The results were intriguing. While demographic indicators like age, unemployment, foreign-birth or indigenous status were expected to display significant effects, as per the traditional literature, they did not. Rather, those demographic characteristics demonstrating significant relationships to turnout were five-year population stability, estimated electoral enrolment and—especially—the level of rented accommodation in an electoral district. Indeed, rented accommodation was also the only variable to explain a high level of turnout variance across all three states.

It must be cautioned that as these results rely on aggregate-level data they are very much a blunt instrument, and cannot imply any level of causation; however they help to illuminate current trends and provide some pointers as to where we should be looking. Significant population turnover and high levels of rented dwellings conform to what we know of these affluent inner-suburban electoral divisions, and our estimations of electoral enrolment by district suggest these areas are as under-enrolled as traditionally-problematic remote rural
areas. Indeed, given the propensity for Continuous Roll Update processes to remove mobile electors from the roll, this research presents a picture of significant and increasing under-representation, both in terms of enrolment and turnout, among highly-mobile inner-suburban Australians.

**Implications**

While research and programs targeting traditionally marginalised groups are important and effective, what we are seeing in recent trends is a need to look beyond this at participation in the broader community, especially given the increasing social mobility of younger generations. In essence, we are facing new problems and to combat them we need new tools. Our electoral commissions are too often restricted by law from fully exploiting appropriate technologies. Direct enrolment based on information from trusted partners, especially when extended to enrolment updates, seems to offer the best solution to problems of enrolment. However, automation is no magic bullet and residual problems remain for those under-represented segments of the Australian electorate, both traditional and new. By basing initial enrolment on those prospective voters completing their secondary education, as is the case in New South Wales and Victoria, we run the risk of missing those young Australians who for whatever reason are no longer involved in secondary schooling, many of whom may come from those traditionally-marginalised groups most in need of support.

Compounding this, the low turnout observed in affluent inner-suburban areas may also indicate that the current regime of compelling sanctions is ineffectual for some segments of
the electorate. As we have seen, international experience demonstrates that sanctions must be both significant and strictly enforced. With fines being initially relatively minor and subject to loopholes, it may be that for those in relatively affluent areas not only are the resource barriers to participation insignificant, but so are those to non-participation. Increasing enrolment may simply lead to a reduction in turnout or formality, with no net benefit to participation. We are thus left in a difficult situation. Sanctions cannot be significantly increased without placing a punitive impost on those who face legitimate barriers to participation. Compulsion itself is an integral part of our electoral system and retains popular support among both public and parties. And if compulsion is proving ineffective then interest in electoral participation must be stimulated through interest in politics, the responsibility for which extends far beyond electoral administrators.
References


Bridge, G 2002, The Neighbourhood and Social Networks, Paper no.4, Centre for Neighbourhood Research, Economic & Social Research Council, Universities of Bristol and Glasgow


Johnston & Forrest 2009, ‘Electoral Disproportionality and Bias under the Alternative Vote’, Australian Journal of Political Science, 44:3, 521-528


Parry, G & Moyser, G 1984, ‘Political Participation in Britain: A Research Agenda for a New Study’, Government and Opposition, 19, 80


Verba, S & Nie NH 1972, Participation in America: Political Democracy and Social Inequality, Harper and Row, New York
Figure 1 - Variable Importance

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