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DECODING JUSTICE: A DATA-DRIVEN APPROACH TO EVALUATING AND IMPROVING THE ADMINISTRATIVE REVIEW OF REFUGEE CASES IN AUSTRALIA

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This article presents analysis of a database of over 26,000 applications for review of Protection Visa application in Australia's Administrative Appeals Tribunal. The data suggest that the rate at which applications for review are successful may vary based on the member who hears the case and a number of other factors. We outline how statistics of the nature analysed in our study could inform interventions and reforms aimed at improving the administrative review of Protection Visa cases, and outline lessons for the design and operation of Australia's new Administrative Review Tribunal.

I INTRODUCTION

This study represents the first robust attempt at collecting and analysing data on the review of Protection Visa applications in Australia's Administrative Appeals Tribunal (AAT). We present and analyse an original data set compiled by the Kaldor Centre Data Lab covering 26,036 cases finalised by the AAT from 1 January 2015 to 18 May 2022.[1] We obtained a variety of data points in relation to the decision maker and applicant for each case through Freedom of Information (FOI) requests.[2] We then ran statistical analysis examining the relationship between each factor and the success or failure of the application.

Given the limitations of the data we were provided access to, we were unable to control for all the variables that may be influencing decision-making outcomes. In this regard, it is important

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An earlier version of this paper was presented that the 2022 Australian Institute of Administrative Law Conference, and we are grateful for the valuable feedback provided by the participants at that event. Thanks are also due to Matthew Groves for helpful feedback on an earlier draft. All errors remain the authors' own. The full dataset examined in this study is available through the Kaldor Centre for International Refugee Law website <https://www.kaldorcentre.unsw.edu.au/>. The recommendations presented in Part V are drawn, in part, from our submission to the Attorney-General's review of the Administrative Appeals Tribunal: Daniel Ghezelbash, Keyvan Dorostkar and Mia Bridle, *Submission to the Attorney-General's Department responding to the Administrative Review Reform: Issues Paper* (May 2023) <https://kaldorcentre.unsw.edu.au/sites/kaldorcentre.unsw.edu.au/files/Submission_Administrative_Review_Reform.pdf>.

[1] The Kaldor Centre Data Lab was established in 2022. The Lab publishes regularly updated data and statistical analysis of Australia's refugee status determination decisions. The data currently covers review by the AAT and IAA, as well as judicial review by the Federal Circuit and Family Court.

[2] For more details, see the methodology section at Part III below.

to note that cases are not allocated to members randomly at the AAT.[3] While we were able to account for many of factors considered in the case allocation process, the fact that we were unable to access data on certain key variables, is a limitation that needs to be foregrounded at the outset.[4]

Given these limitations, we present our findings, not as definitive evidence of problematic decision-making practices, but as demonstrating the potential utility of data driven approaches to studying and improving decision-making at the AAT. By making the case for data-driven approaches and demonstrating various potential applications, we hope to encourage the sharing of more comprehensive data in the future, that would allow for a more sophisticated understanding of the impact different variables have on the decision-making process.

The fact that we were able to control for many of the relevant variables, means that the analysis presented in the paper is a significant improvement on the purely descriptive statistics that are often presented and relied up on in this context. Since this is an observational study, we cannot and do not intend to draw causal inferences. However, we are able to identify associated relationships, which we argue raise questions worthy of further enquiry and analysis. This is particularly the case in regard to the potential influence of noise and bias in decision-making, as well as the politicisation of the appointment and re-appointment process of members to the Tribunal.

Our analysis in this regard is timely given the announcement by the Albanese government in December 2022 that the AAT would be abolished and replaced with the new federal Administrative Review Tribunal (ART),[5] and the introduction and ongoing parliamentary review of the Administrative Review Tribunal Bill 2023 and associated Consequential and Transitional Provisions bills.[6] The purpose of this article is not only to look back and assess the performance of the AAT in relation to Protection Visa decision-making, but to also draw on that data to provide recommendations for the design and operation of the new ART.

Recent years have seen an increased recognition of the role statistical analysis can play in improving decision-making in courts and tribunals. The Australian Law Reform Commission (ALRC) 2022 Report into Judicial Impartiality included ground-breaking recommendations on how data can be used to promote judicial impartiality and public confidence in the legal system.[7] This included Recommendation 13, which called upon Commonwealth courts to develop a policy on the creation, development, and use of statistical analysis in judicial decision-making. While acknowledging the risks around the misuse and misrepresentation of such data, the recommendation was justified on the grounds that statistical findings could potentially play a role in counteracting social and cognitive biases in decision-making, and boost transparency and public confidence in the judiciary.[8] We thoroughly examined the risks

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[3] See n 70 and accompanying text below.
[4] For further discussion on the variables that we were unable to access, see n 70, 84 and accompanying text.
[5] Mark Dreyfus, Attorney-General, 'Albanese Government to abolish Administrative Appeals Tribunal' (Media Release, 16 December 2022) <https://www.markdreyfus.com/media/media-releases/albanese-government-to-abolish-administrative-appeals-tribunal-mark-dreyfus-kc-mp/>.
[6] Administrative Review Tribunal (Consequential and Transitional Provisions No. 1) Bill 2023; Administrative Review Tribunal (Consequential and Transitional Provisions No. 2) Bill 2024.
[7] Australian Law Reform Commission, *Without Fear or Favour: Judicial Impartiality and the Law on Bias* (ALRC Report 138, December 2021).
[8] Ibid 491-493. See Part V.B below for further discussion.

and significant opportunities of this form of statistical analysis of individual decision-making in the context of the judicial review of refugee cases in the Federal Circuit and Family Court in an article published in 2022.[9]

The premise for the present article is that statistical findings from analysing decision-makers' outcomes can bring similar benefits in the context of administrative review, and inform the design and operation of Australia's new administrative review body. Unlike our earlier article, which named individual judges alongside the statistics, we have chosen not to name individual tribunal members. This decision was made to keep the focus on the broader structural issues we identify and recommendations for systemic and operational reforms.[10] Administrative review of government decision-making is one of the institutional pillars of democracy and we believe that transparency around how this function is being undertaken enhances the authority and reputation of the administrative review body.

The approach adopted in this article mirrors those of similar empirical studies conducted in the United States, Canada and France, which show that a refugee applicant's chance of success may largely turn on which decision-maker is assigned to their case.[11] More broadly, our research advances the developing field of empirical and data-driven research on refugee decision-making across the world.[12] In Canada, the Refugee Law Lab publishes regularly updated data and analysis on individual decision-making for each stage of the assessment and review of refugee cases.[13] In Denmark, the Nordic Asylum Law and Data Lab analyses possible factors contributing to variance in refugee decision-making across Denmark, Sweden and Norway.[14]

This approach is not unique to the refugee space. There is also a rich existing body of literature that we build on which applies quantitative approaches to studying administrative review, and decision-making more broadly, in other contexts. This research is grounded in the power of empirical study to analyse the performance of review systems, identify where resources are needed, and spark policy change. By taking a broader perspective than most legal studies, which focus on legal rules and their interpretation, quantitative empirical research, when used

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[9] Daniel Ghezelbash, Keyvan Dorostkar and Shannon Walsh, 'A data driven approach to evaluating and improving judicial decision-making: Statistical analysis of the judicial review of refugee cases in Australia' (2022) 45(3) *UNSW Law Journal* 1085.

[10] We do, however, identify individual members in the accompanying data set published on the Kaldor Data Lab website. We did this as the data was already publicly available online in the Freedom of Information request responses.

[11] Jaya Ramji-Nogales, Andrew Schoenholtz, and Philip Schrag, 'Refugee Roulette: Disparities in Asylum Adjudication' (2007) 60 *Stanford Law Review*, 295; Jaya Ramji-Nogales, Andrew Schoenholtz, and Philip Schrag, *Refugee Roulette: Disparities in Asylum Adjudication and Proposals for Reform* (NYU Press, 2009); Sean Rehaag, 'Troubling Patterns in Canadian Refugee Adjudication' (2008) 39 *Ottawa Law Review* 335; Sean Rehaag, 'Judicial Review of Refugee Determinations: The Luck of the Draw?' (2012) 38 *Queen's Law Journal* 1; Sean Rehaag, 'Judicial Review of Refugee Determinations (II): Revisiting Luck of the Draw' (2019) 45 *Queen's Law Journal* 1; The data and analysis in respect to the French judges was compiled by Michaël Benesty as part of the Supra Legum Project. The data is no longer publicly available following the French ban on statistical analysis of judicial decision-making discussed in Ghezelbash, Dorostkar and Walsh (n 9)1087-9.

[12] Daniel Ghezelbash and Keyvan Dorostkar, 'Understanding the Politics of Refugee Law and Policy Making: Interdisciplinary and Empirical Approaches' (2023) *Journal of Refugee Studies* (advance) https://doi.org/10.1093/jrs/fead039.

[13] 'Refugee Law Data', *Refugee Law Lab* (Web Page) <https://refugeelab.ca/projects/refugee-law-data/>.

[14] 'Nordic Asylum Law & Data Lab', *University of Copenhagen* (Web Page) <https://asylumdata.ku.dk/>. The project team includes scholars from University of Copenhagen (both Law and Computer Science), Uppsala University (Law and Medical Science) and Oslo University (Law). See also William Byrne et al, 'Data Driven Futures of International Refugee Law' *Journal of Refugee Studies* (forthcoming).

appropriately, allows for examination of the influence of a wide range of observable factors on administrative decision-making processes and patterns.[15] Internationally, quantitative research has been variously utilised to study the efficiency and operation of administrative justice bodies,[16] the performance of Ombudsmen,[17] and users' experiences of these mechanisms.[18] In Australia, empirical quantitative research has been used to evaluate various aspects of administrative decision-making, including the efficiency of procedural rules,[19] the legal and moral values that guide decisions,[20] and how administrative bodies interpret and apply legal standards.[21]

Nonetheless, we acknowledge the inherent complexity of administrative decision-making and the difficulty this poses for meaningful empirical analysis. We also note the barriers to obtaining detailed data on the decision-making of the AAT. Only a small portion of written decisions of the Migration and Refugee Division (MRD) at the AAT are published. This precluded us from being able to use computational approaches to extract relevant data from a full set of published decisions, as we did in our previous article on the judicial review of refugee cases in the Federal Circuit and Family Court of Australia. In this article, we were limited to an analysis of data which we could obtain through FOI requests to the AAT under the *Freedom of Information Act 1982* (Cth). While we are grateful to the AAT for their transparency in

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[15] David K. Hausman, 'Reviewing Administrative Review' (2021) 38(4) *Yale Journal on Regulation* 1059, 1115; Cary Coglianese, 'Empirical Analysis and Administrative Law' [2002] 2002(4) *University of Illinois Law Review* 1111, 1137; Marc Hertogh, 'Administrative Justice and Empirical Legal Research: Debunking the Ordinary Religion of Legal Instrumentalism' in Marc Hertogh et al (eds) *The Oxford Handbook of Administrative Justice* (Oxford University Press, 2021) 355, 355-6, 361.

[16] See, eg, Hausman (n 15); John Baldwin, Nicholas Wikeley, and Richard Young, *Judging Social Security* (Oxford: Oxford University Press, 1992); Nuno Garoupa, Marian Gili, and Fernando Gómez-Pomar, 'Political influence and career judges: an empirical analysis of administrative review by the Spanish Supreme Court' (2012) 9(4) *Journal of Empirical Legal Studies* 795; Charles E. Daye, 'Powers of Administrative Law Judges, Agencies, and Courts: An Analytical and Empirical Assessment' (2001) 79(6) *North Carolina Law Review* 1571; Chris Guthrie et al, 'The 'Hidden Judiciary': An Empirical Examination of Executive Branch Justice' (2009) 58(7) *Duke Law Journal* 1477; A. Keinänen, et al, 'Prison Leave in Finland: Legal and Empirical Fundamentals of an Established Practice' (2020) 26 *Eur J Crim Policy Res* 177.

[17] See, eg, Julia Dahlvik and Axel Pohn-Weidinger, 'Administering Access to the Public Ombuds Institution: A Case Study on the Austrian Ombudsman Board' in Marc Hertogh and Richard Kirkham (eds) *Research Handbook on the Ombudsman* (Cheltenham: Edward Elgar Publishing, 2018) 394–414; Sharon Gilad, 'Accountability or Expectations Management? The Role of the Ombudsman in Financial Regulation' (2008) 30(3) *Law & Policy* 227.

[18] See, eg, Hazel Genn, Ben Lever and Lauren Gray, *Tribunals for Diverse Users* (Department for Constitutional Affairs, Research Series 1/06, 2006); Naomi Creutzfeldt, *Ombudsmen and ADR: A Comparative Study of Informal Justice in Europe* (London: Palgrave Macmillan, 2018).

[19] Administrative Appeals Tribunal, *An Evaluation of the Use of Concurrent Evidence in the Administrative Appeals Tribunal* (2005), cited in F. Kristjanson, '"Hot-Tubs" and Concurrent Evidence: Improving Administrative Proceedings' (2012) 25(1) *Canadian Journal of Administrative Law & Practice* 79.

[20] Zach Richards, *Legality: The New Administrative Justice* (London: Routledge, 2018), cited in Marc Hertogh, 'Administrative Justice and Empirical Legal Research: Debunking the Ordinary Religion of Legal Instrumentalism' in Marc Hertogh et al (eds) *The Oxford Handbook of Administrative Justice* (Oxford University Press, 2021) 355, 361; Alyssa Venning et al, 'Adjudicating reasonable and necessary funded supports in the National Disability Insurance Scheme: a critical review of the values and priorities indicated in the decisions of the Administrative Appeals Tribunal' (2021) 80(1) *Australian Journal of Public Administration* 97.

[21] Chao Yi, 'Contextualizing the Reasonableness Test of Internal Relocation in International Refugee Law: Empirical Analysis of Decisions of the Administrative Appeals Tribunal of Australia concerning Afghanistan, Pakistan, Bangladesh, India, and Sri Lanka' (2017) 20(2) *Gonzaga Journal of International Law* 138; Marie Segrave, Helen Forbes-Mewett and Chloe Keel, 'Migration Review Tribunal Decisions in Student Visa Cancellation Appeals: Sympathy, Hardship and Exceptional Circumstances' (2017) 29(1) *Current Issues in Criminal Justice* 1-17.

responding to our request, we were not able to access all the datapoints that may influence the decision-making outcomes of members at the AAT. In particular, we could not access data relating to the date each decision was made and data on applicants' specific claim types.

Therefore, before presenting our results, it is vital to note two important caveats. First, throughout this article, we do not attempt to infer any relationships of cause and effect between the outcome of a case and the factors associated with it. Instead, we carry out an observational study, from which associative relationships can be established via inductive statistical reasoning. As we note in our earlier article,

> Inductive reasoning begins with specific observations which are used to reach an overarching conclusion.[22] It cannot prove a causal link and can only infer the most probable links based on the evidence at hand.[23]

We merely provide a preliminary exploration of the relationships between various factors associated with each case and whether the tribunal decided in favour or against the applicant. In particular, our analysis allows us to identify statistically significant variables that may be influencing decision-making.

Second, consistency in tribunal decision-making, or higher rates of accepting or refusing applications, is not an appropriate measure of accuracy or 'good' decision-making. Merits review of refugee cases involves the consideration of complex questions of fact and law that do not lend themselves to clear-cut black and white outcomes.[24]

> Hence, in such a context, it is a truism that 'conscientious decision-makers, applying their minds to the same set of facts, may sometimes reasonably come to different conclusions';[25] which can be both substantiated and justified. While the principle of consistency forms a key part of the concept of justice; the practical implications specifically in the refugee context mean that consistency should be 'in the service of fair and just decision-making'.[26] A certain degree of variation is to be expected in a well-functioning […] system. Even significant variations are not necessarily an indication of issues in the quality of decision-making.[27]

We propose, however, that where we identify statistically significant variables that are associated with the outcome of decision-making, but irrelevant to the merits of the case, this warrants additional investigation to uncover possible explanations. In light of this, we attempt to provide context and examine possible plausible explanations for the relationships we identify. We then draw on this analysis to propose interventions and reforms that may improve decision-making and increase public confidence in the new ART.

Equally, we present this article as a case for more transparent publishing of data by administrative decision-making bodies, which is much needed for the advancement of empirical research in this area. Increasing the availability of detailed data relating to administrative decision-making would enable a more comprehensive statistical analysis to be

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[22] Zara O'Leary, *The Social Science Jargon Buster* (Sage Publications, 2011) 57.
[23] Ghezelbash, Dorostkar and Walsh (n 9) 1096-7.
[24] Stephen Legomsky, 'Learning to Live with Unequal Justice: Asylum and the Limits to Consistency' (2007) 60(2) *Stanford Law Review* 413, 425-6.
[25] Hugo Storey, 'Consistency in Refugee Decision-Making: A Judicial Perspective' (2013) 32(4) *Refugee Survey Quarterly* 112, 114.
[26] Ibid.
[27] Ghezelbash, Dorostkar and Walsh (n 9) 1096-7.

conducted, which, in turn, would foster a deeper and more sophisticated understanding of the decision-making process. The onus will be on the new ART to ensure that such data is made publicly available to facilitate such analysis.

Our analysis proceeds in four parts. In Part II, we briefly set out the process for assessing asylum claims in Australia, from the initial application, through to merits and judicial review. Part III outlines the data collection process and our statistical methodology. Part IV presents the statistical findings from our analysis. In Part V, we highlight the important role that the statistical findings of the nature obtained in this article can play in the design, operation and ongoing evaluation of Australia's new administrative review body. In Part VI, we conclude by arguing that embracing a data driven approach and data transparency will significantly contribute to the ART's operations and enable it to overcome the significant challenges and issues it will inherit from the legacy of the AAT.

II THE ROLE OF THE AAT IN AUSTRALIA'S REFUGEE DETERMINATION SYSTEM

Before moving on to the analysis of the data, it is important to understand the role the AAT plays in Australia's refugee status determination system. The AAT was established in 1976 to address the need for an accessible mechanism of external review in the context of the increasing discretionary powers vested in government Ministers and officials.[28] While the AAT initially had jurisdiction to review migration and refugee decisions, separate Migration and Refugee Review Tribunals were established in 1989 and 1993, respectively, as migration and refugee cases dramatically increased.[29] However, these tribunals were amalgamated back into the AAT in 2015, in order to 'harmonise and simplify procedures' to create a 'coherent merits review framework'.[30] Today, the AAT is the Commonwealth's largest tribunal, and the MRD is one of eight divisions. Applications to the MRD accounted for almost half of all applications to the AAT between 1 July 2021 and 30 June 2022.[31] However, cases from the MRD constituted a greater 83% of the tribunal's total caseload, due to a backlog of over 56,000 cases on hand at the end of the previous year.[32]

While the ordinary powers and rules of the AAT are set out in the *Administrative Appeals Tribunal Act 1975* (Cth) and *Administrative Appeals Tribunal Regulation 2015* (Cth), its specific powers and procedures to review Protection Visa decisions are set out in Part 7 of the *Migration Act 1958* (Cth) ('Migration Act'). Australia has different procedures for processing and reviewing Protection Visa applications based on an asylum seeker's mode of arrival.[33] 'Regular' procedures apply to individuals who arrive by plane, while 'fast track' procedures

[28] Commonwealth, *Parliamentary Debates,* House of Representatives, 6 March 1975, 1186 (Kep Enderby, Attorney-General). For an overview of the history of the AAT and the nature of merits review more broadly, see Attorney General's Department (n 6); Mary Crock and Laurie Berg, *Immigration, Refugees and Forced Migration: Law, Policy and Practice in Australia* (Federation Press, 2011), Chapter 18; Matthew Groves and Greg Weeks, 'Tribunal Justice and Politics in Australia: The Rise and Fall of the Administrative Appeals Tribunal' (2023) 97(4) *Australian Law Journal* 278.
[29] Groves and Weeks (n 28).
[30] Explanatory Memorandum, Tribunals Amalgamation Bill 2015 (Cth) 3.
[31] Administrative Appeals Tribunal, *Annual Report 2021-22* (2022) 21.
[32] Ibid; Administrative Appeals Tribunal, *Annual Report 2020-21* (2021) 40.
[33] For a detailed overview of these steps, see Ghezelbash, Dorostkar and Walsh (n 9) Part II.

apply to individuals who arrive by boat without authorisation.[34] For both procedures, a delegate of the Minister at the Department of Home Affairs first assesses the Protection Visa application.[35] Applicants who are refused a visa can then apply for merits review, in which an independent reviewer 'standing in the shoes' of the original decision-maker, reconsiders the application.[36]

The MRD of the AAT is responsible for carrying out merits review in the regular procedures, and this is the focus of the statistics examined in the present article. Applicants can seek merits review before the AAT within 28 days of the Department's decision to refuge to grant a Protection Visa.[37] The AAT must then invite the applicant to appear and give evidence,[38] and it has the power to accept new information.[39] After reviewing the applicant's case, the AAT can affirm the decision under review;[40] vary the decision;[41] set aside the decision under review, and either substitute the delegates decision with a new decision to grant the protection visa,[42] remit the decision back to the department for reconsideration;[43] or decide that it has no jurisdiction to review the delegate's decision.

Review at the AAT focuses on both questions of fact and law. For the Tribunal to intervene to set aside or vary the decision of the primary decision-maker, it must come to a view that either: 'the facts are different from what they were believed to be by the primary administrator' and/or 'the law applies differently from the way in which the primary administrator applied it'.[44] As Justice Brennan noted, during his tenure as the inaugural President of the AAT, the scope for fact-finding by the Tribunal means that decision-making can be more subjective than in the judicial context, where the focus of deliberation is focused solely on questions of law.[45] This is particularly the case with respect the adjudication of Protection Visa application. Decisions often turn on discretionary evaluations of an applicant's claims, which are confounded by fact-finding issues, such as a lack of documentary evidence and witnesses. Therefore, decision-makers frequently rely on assessments of credibility, which are prone to influence from unconscious bias, misunderstandings, cultural barries and ideologies.[46] This context is

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[34] For a detailed comparison of the standard and fast track procedures, see Emily McDonald and Maria O'Sullivan, 'Protecting Vulnerable Refugees: Procedural Fairness in the Australian Fast Track Regime' (2018) 41(3) *University of New South Wales Law Journal* 1003 <https://doi.org/10.53637/LQUA4141>. For an assessment of the impact of the policy on the mental health of asylum seekers, see Mary Anne Kenny and Nicholas Proctor, 'The Fast Track Refugee Assessment Process and the Mental Health of Vulnerable Asylum Seekers' (2015) 23(1) *Psychiatry, Psychology and Law* 62 <https://doi.org/10.1080/13218719.2015.1032951>.

[35] For 'fast track' applicants, the Minister must first personally decide to 'lift the bar' so that an applicant can apply for a visa: Migration Act 1958 (Cth) s 46A ('*Migration Act'*).

[36] *Minister for Immigration and Ethnic Affairs v Pochi* (1980) 4 ALD 139, 143 (Smithers J).

[37] *Migration Act* (n 35) s 412.

[38] Ibid s 425.

[39] Ibid s 424.

[40] Ibid s 415(2)(a).

[41] Ibid s 415(2)(b).

[42] Ibid s 415(2)(d).

[43] Ibid s 415(2)(c).

[44] Justice FG Brennan, 'Comment: The Anatomy of an Administrative Decision' (1980) 9(1) *Sydney Law Review* 1, 4.

[45] Ibid 5-7.

[46] Sean Rehaag and Hilary Evans Cameron, 'Experimenting with Credibility in Refugee Adjudication: Gaydar' (2020) 9(1) *Canadian Journal of Human Rights* 1; Laura Smith-Khan, 'Why Refugee Visa Credibility

important to bear in mind when examining the data examined in this article. It also underscores the reasons for, and value of the present study, and in particular, the need for interventions that can increase consistency.

Fast-track decisions are reviewed by the Immigration Assessment Authority (IAA), which is a separate office within the AAT's MRD.[47] Review at the IAA is carried out under different, more streamlined procedures, where applicants are afforded more limited procedural and substantive rights. Moreover, the limits on the ability of members to consider new information provides less scope for determining questions of fact when compared to the AAT. While at the time of writing the IAA was still operational, the government has announced that it will be abolished as part of the ART reforms, with the Protection jurisdictional area of the new ART taking on responsibility for the review of all Protection Visa applications. These procedures of the IAA, as well as the Kaldor Data Lab statistics on their operation, are examined in depth in a separate forthcoming article.[48]

Judicial review is available where an applicant is unsuccessful before the AAT or the IAA. For an overview of the judicial review process, and statistical analysis of the judicial review of refugee cases in Australia, see our earlier publication.[49] As a final option, an applicant may request that the Minister intervenes and grants a visa by exercising one of their discretionary public interest powers.[50]

III METHODOLOGY

The data for this study was obtained through FOI requests to the AAT under the *Freedom of Information Act 1982* (Cth).[51] We obtained data on all AAT Protection Visa decisions made between 1 January 2015 and 18 May 2022, through two separate FOI requests, covering 1 January 2015 to 18 May 2020, and 18 May 2020 to 18 May 2022.[52] In total, 26,036 Protection Visa decisions were made by the AAT in this period.[53]

For each case, we obtained the following information from the FOI requests:

Assessments Lack Credibility: A Critical Discourse Analysis' (2019) 28(4) *Griffith Law Review* 406; Cohen J, 'Questions of Credibility: Omissions, Discrepancies and Errors of Recall in the Testimony of Asylum Seekers' (2001) 13(3*) International Journal of Refugee Law* 293.

[47] *Migration Act* (n 35) s 473CA.

[48] Data and analysis on decision-making at that IAA can also be found on the Kaldor Centre Data Lab website <https://www.kaldorcentre.unsw.edu.au/kaldor-centre-data-lab>.

[49] Ghezelbash, Dorostkar and Walsh (n 9) 1092-3.

[50] *Migration Act* (n 35) ss 48B, 417, 195A.

[51] The full dataset is publicly available for download at 'Kaldor Centre Data Lab', *Kaldor Centre for International Refugee Law* <https://www.unsw.edu.au/kaldor-centre/our-resources/kaldor-centre-data-lab>.

[52] It should be noted that the Tribunals Amalgamation Bill 2015 (Cth) came into force on 1 July 2015, with certain provisions becoming operative in stages over 2015. Given that the data on covers Protection Visa applications finalised by the AAT (and not the RRT), the dataset does not include any cases finalised prior to 1 July 2015, and does not represent the full set of Protection Visa review decisions for 2015.
amalgamation, the relevant statute was passed in 2015 but its provisions became operative in stages over 2015

[53] We also obtained data on cases before the AAT and IAA that were 'otherwise finalised', including cases that were withdrawn, or determined to be outside the jurisdiction of the tribunal. We have focused our analysis only on those cases affirmed (rejected) or remitted/set aside (accepted) by the tribunal.

- The outcome of the case (whether it was set aside or affirmed);[54]
- The name of the tribunal member who decided the case;
- The country of origin of the applicant; and
- Whether the applicant had legal representation.[55]

In addition, we conducted further research to compile the following information for each case:

- The gender of the tribunal member who decided the case;[56]
- The date of appointment of the tribunal member who decided the case; [57]
- The political party that appointed the tribunal member; and
- Whether the tribunal member had legal training.[58]

The statistical analysis was implemented using Python.[59] For the full code, see Appendix A. We first imported the data using Pandas (version 1.3.4).[60] Our dataset contains both continuous and categorical variables. Our dependent variable, i.e. the variable that we are predicting, is the *outcome* of the application (binary). We identified the following *predictors,* i.e. variables that the literature indicates might be important in determining the outcome:[61]

- Characteristics of the decision-maker:
    - *Tribunal member:* The tribunal members who decided the application (categorical);
    - *Gender:* The gender of the tribunal member who decided the application (binary);
    - *Years:* The year the tribunal member was first appointed (continuous);
    - *Political party:* The political party that appointed the tribunal member (binary);
    - *Legal training:* Whether the tribunal member had legal training (binary);
- Factors relating to the applicant's claim:
    - *Country:* The country of origin of the applicant (categorical);

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[54] The data does not capture whether cases set aside were remitted back to the Department or if a Protection Visa was issued. The data set also does not include cases where the tribunal determined that it did not have jurisdiction to hear the matter.

[55] The data does not distinguish between representation by a lawyer or a migration agent. Throughout this article, 'legal representation' is used to refer to representation by both lawyers and migration agents.

[56] Note, we assumed tribunal members' gender from the honorific used before their name in the Administrative Appeals Tribunal *Annual Reports* ('Mr' indicating a man, 'Ms' indicating a woman, etc). We acknowledge the limitations of this approach and the authors take responsibility for any errors.

[57] Note, this data covers the date of first appointment to previous tribunals such as the RRT and MRT but does not include information of prior experience in any other tribunals. See, Administrative Appeals Tribunal *Annual Reports*.

[58] This was identified from our research of publicly available information, including state law society registers. We also had regard to the data gathered and shared by the Grattan Institute for its 2022 report, *New politics: A better process for public appointments*. Where no information could be found on a tribunal member's background and training, they were treated as having no legal training. 'Legal training' includes post-graduate qualifications and diplomas in law.

[59] Python Software Foundation. Python Language Reference, version 3.9.7 <http://www.python.org>.

[60] Wes McKinney, 'Data Structures for Statistical Computing in Python' (2010) *Proceedings of the 9th Python in Science Conference*, 51-56.

[61] We based this view off an analysis of the existing literature. For an analysis of any existing literature concerning the relationship between the predictors and decision-making outcomes, see their respective sub-parts in Part IV. Please note, throughout this article we do not use the term 'predictor' as suggesting or presupposing any causal relationship being the variable and the outcome; we merely use the term in reference to the following variables.

- *Legal representation:* Whether the applicant had legal representation (binary).

Our data included high cardinality categorical variables, which involved many unique values, and thus pose issues in data encoding. For example, our data set included 174 tribunal members and 151 countries. To resolve this issue, we reduced the number of unique values by recategorising those values that make up less than a 1% of the entire data and relabelled them as 'other'. This reduced our variables to 17 countries, making up 93% of cases, and 39 tribunal members, making up 62% of cases.[62] We then used dummy variables to encode these categorical variables. The binary variables were encoded by assigning either 0 or 1 to its possible outcomes: 0 for an unsuccessful application, 1 for a successful application; 0 for an applicant that is self-represented, 1 for an applicant that has legal representation; 0 for a tribunal who is a man, 1 for a tribunal member who is a woman; 0 for a tribunal member appointed by the Coalition, 1 for a Labor-appointed tribunal member; 0 for a tribunal member with no legal training, 1 for a tribunal member with legal training. When encoding the 'year' variable, we first computed the number of years between the date the earliest tribunal member was appointed (1993) and the date each tribunal member was first appointed as a count, then centred it over zero to avoid issues with multicollinearity. Finally, we accounted for any missing values in the dataset by replacing them with the average values.[63]

After categorising the variables, we conducted logistic regression analysis using Statsmodels (version 0.13.5)[64] to investigate the relationship between the predictors, and the outcome of a case. This allowed us to estimate the degree that each predictor is separately associated with the success of an application. For each predictor, we found a *logistic regression coefficient* (β), which estimates how much the variation in the outcome of an application can be explained by the variation in the predictor. We used this to calculate the *odds ratio* for each predictor. The odds ratio is calculated by the formula e^{β} and represents the multiplicative change in the odds of an applicant succeeding if the predictor occurs. An odds ratio of a binary variable that is greater than one indicates that an applicant is more likely to succeed if the predictor occurs. An odds ratio between zero and one indicates that an applicant is less likely to succeed if the predictor occurs. An odds ratio of exactly one indicates that an applicant's chance of succeeding is not affected if the predictor occurs. For example, an odds ratio of two means that the odds of an applicant with, say, legal representation succeeding is two times higher than an applicant without legal representation, while keeping other factors constant. On the other hand, an odds ratio of 0.5 means the odds of an applicant succeeding is halved in the presence of the predictor.

We also calculated the 95% confidence intervals (CIs) for each regression coefficient, indicating the level of certainty about the coefficient for each predictor. The 95% CI for each coefficient gives the range of values which, if the same procedure is performed repeatedly, would contain the true coefficient value 95% of the time, provided the model is correctly specified. A narrower CI can be interpreted as signifying a higher level of precision of the

[62] While this method should be used cautiously to ensure that valuable information is not overwritten, we maintained a representation of over 60% in both variables.
[63] We were missing data on one decision-maker: Michelle Anderton (Political party: Coalition; Year: 20).
[64] Skipper Seabold and Josef Perktold, 'Statsmodels: Econometric and statistical modeling with python' (2010) *Proceedings of the 9th Python in Science Conference*.

estimated regression coefficient. We also calculated the 95% CIs of the odds ratio for each coefficient using the formula: $e^{\beta \pm 1.96 * SE}$, where SE is the standard error for each coefficient.

IV RESULTS AND ANALYSIS

Overall, applications before the AAT for refugee decisions were rarely successful. Out of 26,036 total applications, only 3,236 were decided in favour of the applicant. That means only 12.43% of applicants for merits review were granted a Protection Visa or remitted to the Department for reconsideration, and 87.57% resulted in the Tribunal affirming the decision of the Department.[65]

The data allows us to examine the relationship between various variables against the success rates of Protection Visa applicants at the Tribunal. These include the tribunal member who decided the case, the political party which appointed them, their gender, whether they have legal training, the country of origin of the applicant and whether they had legal representation. A summary of the results of the logistic regression are presented in Table 1, before we explore each variable and its relationship to case outcomes in detail.

Table 1: Summary of Results of Logistic Regression[66]

Predictor	Odds ratio	Confidence interval	Brief interpretation
Tribunal member			*See Part A for these results.*
Political party that appointed tribunal member	**1.30**	[1.13, 1.49]	*Applicants appearing before Labor-appointed members were 30% more likely to succeed, compared to Coalition-appointed members.*
Representation	**5.5**	[4.86, 6.17]	*Represented applicants were 5.5 times more likely to succeed that those without representation.*
Year of appointment of tribunal member	**1.04**	[1.02, 1.05]	*The odds of an applicant succeeding decreases by 4% for each additional year since the tribunal member was appointed.*
Country of origin of applicant			*See Part D for these results.*
Gender of tribunal member	1.04	[0.84, 1.10]	*Cases decided by a woman were 4% more likely to succeed.*

[65] Given the disproportionate number of applications that are unsuccessful, we acknowledge the potential for bias in our model, as logistic regression in such datasets can underestimate the probability of rare events and overestimate inconsistencies in the data. Using methods to reduce this bias, such as those discussed in Gary King and Langche Zeng, 'Logistic Regression in Rare Events Data' (2001) 9(2) *Political Analysis* 137-163, is a goal for further research in this area. In this article, we rely upon the large size of our dataset to reduce the chance of bias.

[66] See Appendix B for the full table of results.

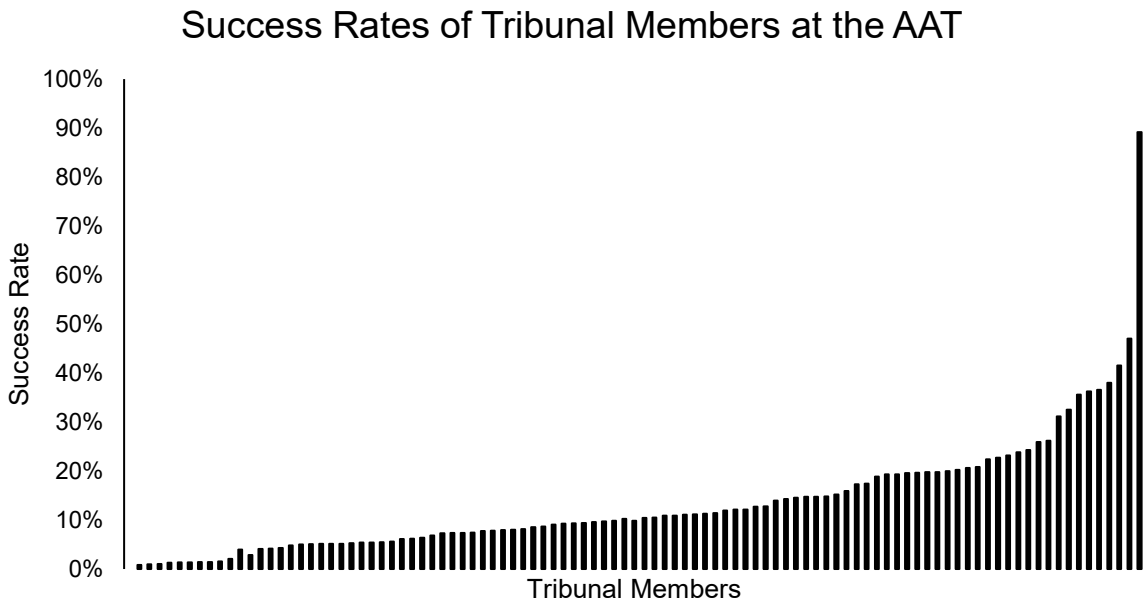
Legal background	**.74**	[0.64, .85]	*Applicants appearing before a decision-maker with a legal background were 26% less likely to succeed.*

Note: Bolded odds ratios are significant at $p<0.05$. The odds ratio represents the chance of an applicant succeeding if the predictor occurs. The 95% confidence interval represents the level of certainty about the odds ratio for each predictor, with a narrower confidence interval signifying a higher level of precision in our estimate of the odds ratio.

A Tribunal members

The data reveals significant variation in the success rates of applicants before individual tribunal members. In total, there were 174 tribunal members in our data set. We initially focus our analysis here, however, on the 101 tribunal members who decided over 50 cases.[67]

Figure 2: Success Rates of Tribunal Members (who decided over 50 Protection Visa decisions)



The overall success rate for individual tribunal members who decided over 50 applications ranged from zero to 89% and reveals some significant statistical outliers.[68] One member decided in favour of the applicant in 66 out of the 77 Protection Visa cases they decided (89.19% success rate). Two members found in favour of the applicant in 47.00% and 41.51% of their cases respectively. On the other hand, although not considered strict statistical outliers, a sizeable number of tribunal members differed considerably from the average. Two members never decided in favour of the applicant, and a further 15 tribunal members rejected

[67] Note, below we further restrict our dataset to the 39 tribunal members who decided cases in over 1% of the dataset (being 260 cases). This was necessary to mitigate issues with encoding high cardinality categorical variables for logistic regression analysis. However, in this section, due to the descriptive nature of our initial analysis, we restrict our data set to only those tribunal members who have decided over 50 cases, enabling us to capture the broader trends of a greater number of individual judges' success rates.

[68] Statistical outliers were determined by calculating the inter-quartile range (IQR) of the success rates of members who had decided over 50 cases. Data points which fall below 1.5 IQR less than the first quartile, or fall above 1.5 IQR more than the third quartile, are outliers.

applications in over 95% of their cases. Overall, 55% (n=56) of tribunal members who decided over 50 cases deviated from the average acceptance rate by more than 50%.[69]

As the AAT has noted in its explanatory statement responding to the Kaldor Data Lab research, 'there is a need to exercise caution when drawing inference from the data about individual members' patterns of decision making.' The statement goes on to note:

> There are multiple factors which may contribute to whether a member affirms or sets aside a decision in a protection (refugee) case, which are not apparent in quantitative data. These include:
>
> - the nature of evidence presented by applicants or their representatives, including the quality and extent of evidence provided, delays in the provision of evidence or the failure to provide updated evidence
> - whether the applicant failed to appear at the hearing, resulting in the case being dismissed (cases finalised by dismissal are included in the data for affirmed cases)
> - the current situation in the applicant's country of origin
> - the age of the case
> - the complexity of the case
> - the types of cases a member is allocated.[70]

The AAT has also noted that the changing profile of its refugee caseload may contribute to success rates as, between 2016 and 2021, approximately two thirds of refugee lodgements and finalisations related to applications made by Chinese and Malaysian nationals, where historically there have been low levels of engagement and low success rates.[71]

The point in relation to the manner of case allocation is particularly important to bear in mind when interpreting the data. If cases were allocated to members randomly, with a sufficiently large sample size, we would expect to see a similar distribution of case factors that may affect applicants' success before each tribunal member. However, cases are not allocated to members randomly at the AAT, and as such, certain members may be assigned cases with characteristics that have higher or lower chances of success, such as cases from particular countries of origin, or particular claim types within those countries. From 2017, the AAT has employed case assessment registrars and caseload practice managers triage applications, with a particular goal of increasing efficiency in the MRD.[72] We understand that various factors are taken into account when allocating cases, including the member's expertise with respect to specific countries of origin, expertise with respect to specific claim types (i.e. tribunal members may have particular expertise or training in hearing refugee claims on the grounds of religion, gender, political affiliations etc), and the member's level of experience.

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[69] A deviation of over 50% from the average has been treated as an acceptable standard for determining outliers in judicial decision-making in other studies. See Rehaag (2012) (n 11) 26; Ramji-Nogales, Schoenholtz and Schrag (2007) (n 11) 312–13.

[70] Administrative Appeals Tribunal, *AAT explanatory statement for Kaldor Centre* (5 August 2022) <https://www.kaldorcentre.unsw.edu.au/sites/kaldorcentre.unsw.edu.au/files/AAT%20Statement%20to%20Kaldor%20Centre%20050822.pdf>.

[71] Evidence to Senate Legal and Constitutional Affairs Committee, Parliament of Australia, Canberra, 7 November 2022, 50 (Michael Hawkins, Registrar, Administrative Appeals Tribunal).

[72] Administrative Appeals Tribunal, *Annual Report 2017-18* (2018) 36.

By controlling for the variables that have an influence on case allocation, we can isolate the effects of non-random case assignment from the relationships between the variables of interest. However, we can only control for variables that we have access to. With the available data, we were able to control for a variety of variables in our logistic regression analysis, that include many, but not all, of those identified as pertinent by the AAT. These variables are the country of origin of the applicant, the number of years' experience of the member at the tribunal, whether the member has legal training, the political party that appointed the member, the gender of the member, and whether the applicant was legally represented. By controlling for those variables in our logistic regression analysis, we are aiming to remove their effect on the outcome of a case, in order to measure, in isolation, the size and significance of the relationship between tribunal members and the outcome of a case. However, we were unable to control for the specialisation of members in specific claim types, and we could not capture potential changes in the situation in specific countries of origin over time, since we were not granted access to data relating to date each decision was made (although we do hope to obtain such data in the future). As such, we acknowledge the potential for omitted-variable bias in our results, owing to the effect of these omitted variables being misattributed to the variables that we were able to include in our model.

In our regression analysis, as we outline in the methodology section, we restricted our data set to those tribunal members who decided cases in over 1% of the dataset (being over 260 cases). This focused our analysis on 39 tribunal members.

To test the significance of tribunal members as a predictor for the outcome of a case, we implemented a likelihood ratio test. This assesses the improvement in the goodness of fit of our model with the inclusion of tribunal members as a predictor, from a model without tribunal members as a predictor, while controlling for all other variables. The goodness of fit of the model with tribunal members as a predictor improved substantially and the improvement is considered statistically significant ($\chi^2(38)=751.4$, $p<.0001$) under the likelihood ratio test. This suggests that at least one tribunal member made decisions that were inconsistent with other tribunal members deciding like cases, and therefore justifies the inclusion of tribunal members in our model.[73]

However, the above likelihood ratio test only tells us whether to include tribunal members as a predictor. To compare how one tribunal member differs from another, while controlling for all other variables, we need to conduct multiple comparisons between each tribunal member. Conducting many such comparisons typically increases the chance that we will incorrectly find significant differences between tribunal members (i.e. false positives). In order to identify as many significant comparisons as possible while maintaining a low false positive rate, the false discovery rate (FDR) is adjusted accordingly to control the proportion of false positives among the different comparisons we are conducting. The FDR is the expected proportion of type I errors (rejecting a true null hypothesis by chance). Since we are interested in identifying tribunal members who are inconsistent relative to the median decision-maker, we employed the Benjamini-Hochberg procedure to control the FDR. The Benjamini-Hochberg procedure adjusts the p-values for each decision-maker as a predictor, which decreases the overall FDR.

[73] 'Like cases' are cases in which we have controlled for all available variables, to the extent that our data has allowed.

We found that, of those 38 AAT tribunal members included in the logistic regression, 34% (being 13 tribunal members) made decisions that were significantly inconsistent with those of the median tribunal member.[74] While controlling for all the other variables, an applicant's chance of success at the AAT could range from 300% (or four times) higher than that of applicants who had their case decided by the median tribunal member, to 98% lower than the median, depending on the tribunal member deciding their case. This variation in an applicant's odds of success is shown in Figure 3 below.

Figure 3: Odds Ratio of Individual Decision-Makers at the AAT

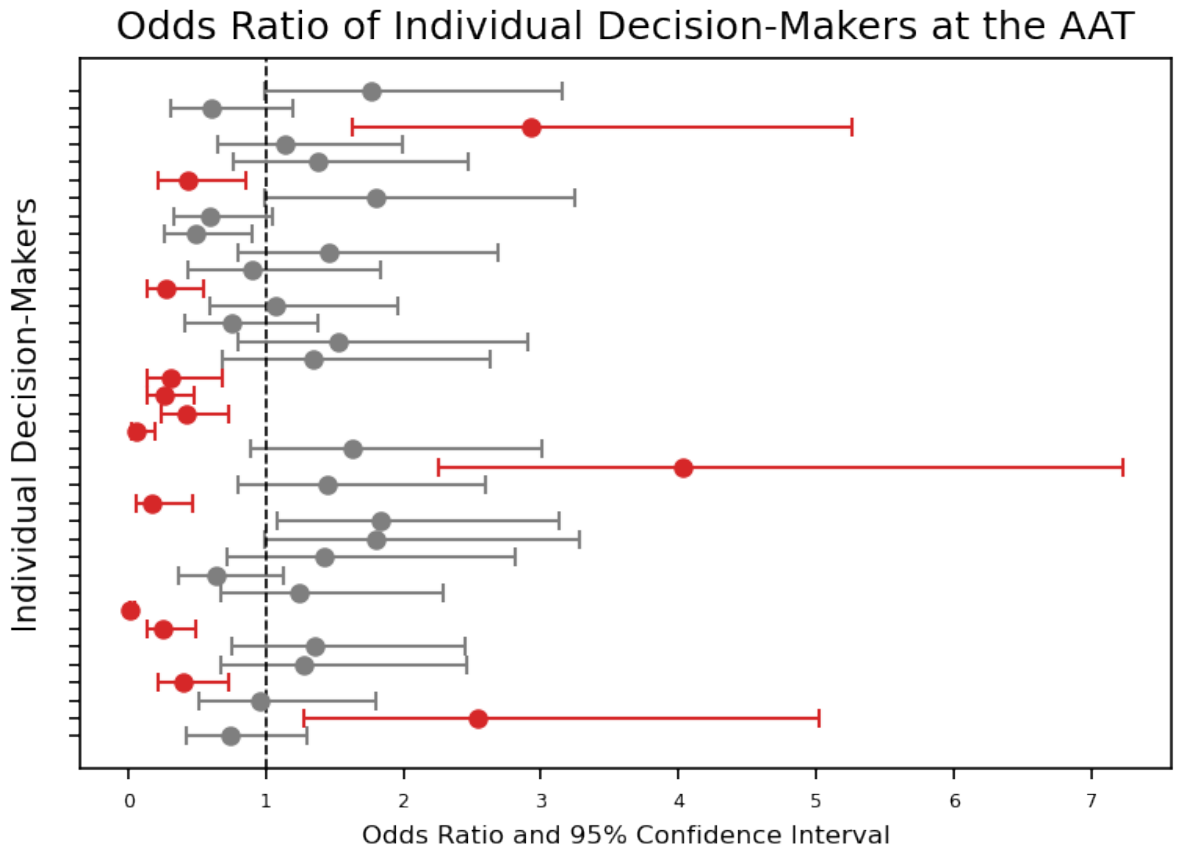

Figure 3 shows the variation in an applicant's odds of success, depending on the tribunal member deciding their case (for members who decided cases in over 1% of the data set). The circular markers represent the odds ratio for each member in comparison to the median decision-maker (represented by the vertical dotted line at 1). The error bars indicate the 95% CI for the odds ratio of each tribunal member. Drawing from the results of the multiple comparison test, tribunal members with statistically significant deviation from the median tribunal member are indicated in red. For example, the left-most marker at 0.02 represents a decision-maker, before whom applicants are 98% less likely to succeed, compared to the median decision-maker. In comparison, the right-most marker at 4 represents a member, before whom, applicants are 300% more likely to succeed, compared to the median decision-maker.

[74] That is, the country of origin of the applicant, whether the applicant was legally represented, the number of years' experience of the member at the tribunal, whether the member has legal training, the political party that appointed the member, and the gender of the member.

We acknowledge that every application that comes before a tribunal member is unique and must be assessed on its own merits. We also acknowledge that, due to limitations inherent in the data that was made available to us, we were unable to control for some of the variables that could contribute to the above discrepancies. While our analysis alone does not conclusively demonstrate inconsistencies in the way different members decide like cases, there is a rich body of evidence demonstrating such variation in the adjudication of refugee claims in other jurisdictions.[75] There is also increasing recognition of the potential influence of noise and cognitive and social biases in decision-making across a wide variety of legal contexts.[76] In light of this, we argue that our analysis raises questions that warrant further investigation and the development of interventions that could promote greater consistency. These issues are explored further in Part VB.

B Political appointments

Over recent years, there have been increasing concerns raised around partisan appointments to the AAT. In 2022, the Australia Institute found that 40% of all appointments made under the Coalition government between 2019 and 2022 were political appointments of people who had previously worked for a federal political party in either a paid or voluntary capacity.[77] Submissions to the Senate Committee Inquiry into the performance and integrity of Australia's administrative review system also voiced concerns that personal and political connections had, or were perceived to have, unduly influenced the appointment of AAT members.[78] Subsequently, the Senate Committee found that the 'AAT has become politicised', directly affecting its proper and effective operation and endangering those who relied upon it.[79] These findings were central to the decision to abolish the AAT in December 2022. The Attorney-General announced that political appointments had 'fatally compromised the AAT, undermined its independence and eroded the quality and efficiency of its decision-making.'[80]

In this context, we first examined the relationship between a tribunal member's original year of appointment and a Protection Visa applicant's chance of success.[81] The dates of appointment of the tribunal members in our data set ranged from 1993 to 2021. Comparing these appointment dates with average acceptance rates, we found that members who were appointed more recently, from 2014 onwards, had a noticeably lower average acceptance rate of 9% (with yearly averages ranging from 2% to 10%). On the other hand, the acceptance rates of members appointed before 2014 varied more significantly, ranging from 6% to 26%, with an average of 16% across the time period.

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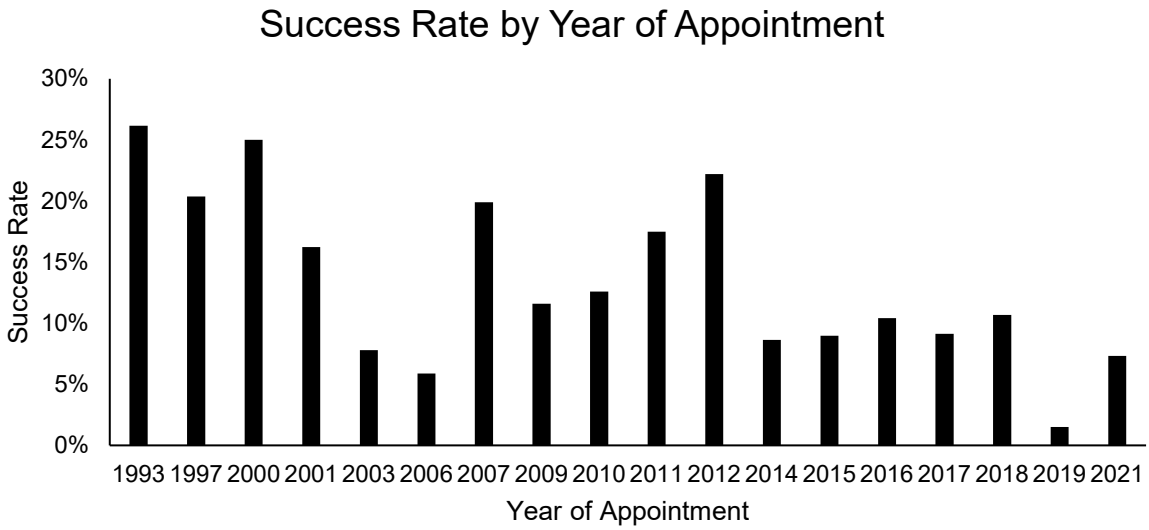
[75] See (n 11) and accompanying text.
[76] See Part V.B below.
[77] Australia Institute, *Cronyism in Appointments to the AAT: An Empirical Analysis* (Discussion Paper, 2022) 1.
[78] Senate Legal and Constitutional Affairs Committee, *The performance and integrity of Australia's administrative review system* (Report, March 2022) <https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Legal_and_Constitutional_Affairs/Adminreviewsystem/Interim_Report> 44-8.
[79] Ibid 93.
[80] Dreyfus (n 5).
[81] Note that this data covers the date of first appointment to previous tribunals such as the RRT and MRT but does not include information of prior experience in any other tribunals.

Figure 4: Success Rate by Year of Appointment



As the more recent members in the data set were appointed by the Coalition government, we hypothesised that these differences were likely explained by the politicised nature of the appointment process. Indeed, we found that the political party in government at the time a tribunal member was first appointed appears to be strongly correlated with the outcomes of their decision-making in Protection Visa cases. Sixty-four per cent (n=110) of decision-makers in our data set were first appointed by the Coalition, and they made 70% (n=18,141) of decisions. The average success rate of applicants who appeared before a tribunal member appointed by the Coalition was 9.99%, compared to a success rate of 18.14% when the decision-maker was Labor-appointed. This means that an applicant's chance of success was 80% higher when appearing before a Labor-appointed member.

This figure is reduced when we control for all other available variables in the logistic regression analysis,[82] with the chances of success for applicants appearing before Labor-appointed members being 30% higher (95% CI [1.13, 1.49]), when compared to Coalition-appointed members. This finding is largely consistent with a similar study by Rohan Simpson, which was focused on a smaller data set drawn from decisions that were selected for publication by the AAT between 2015 and 2018. Simpson found that the odds of an applicant succeeding before a Labor-appointment member were 46% higher.[83] Thus, our data provides further evidence for the potential impact that the politicised nature of the appointment process has had on decision-making at the AAT.

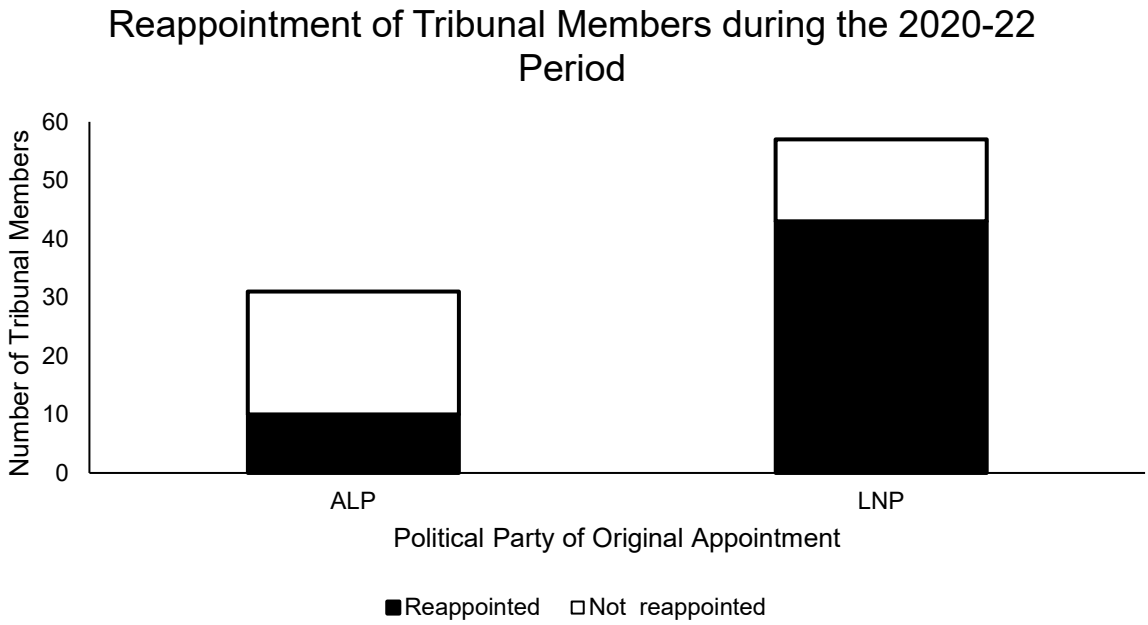
In addition, a comparison of the data across two non-overlapping different time periods, covering 2015 to 2020 and 2020 to 2022, obtained through two separate FOI requests, highlights some potentially concerning temporal trends in relation to the politicisation of the

[82] That is, the country of origin of the applicant, whether the applicant was legally represented, the individual tribunal member, the number of years' experience of the member at the tribunal, whether the member has legal training, and the gender of the member.
[83] Rohan Simpson, 'Got AATitude? A quantitative analysis of refugee decision-making at the Administrative Appeals Tribunal' (Honours Thesis, University of Sydney, 2020) 65.

re-appointment process for members.[84] During the 2015-20 period, 40% of tribunal members who made decisions were first appointed by the Labor party. However, in the 2020-22 period, only 14% of tribunal members were first appointed by the Labor party.

We then looked at the relationship between the political party that originally appointed a tribunal member, and whether they were reappointed during the 2020-22 period.[85] We found that, of the 31 Labor-appointed tribunal members who made over 50 decisions in the 2015-20 period, only 32% (being 10 tribunal members) were reappointed during the 2020-22 period. In comparison, of the 57 Liberal-appointed tribunal members, 75% (being 43 tribunal members) were reappointed during the 2020-22 period.

Figure 5: Reappointment of Tribunal Members during the 2020-22 Period

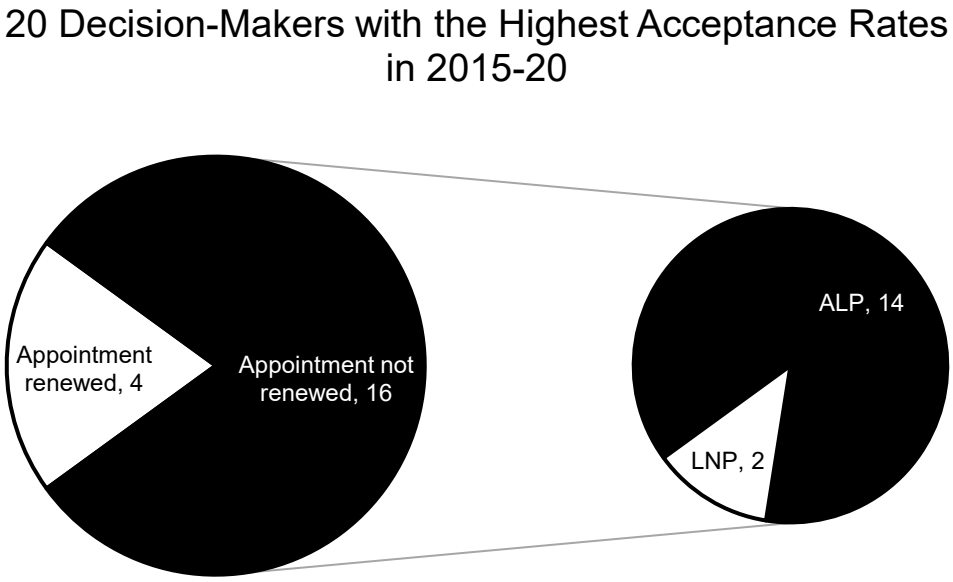


[84] While we acknowledge the arbitrary nature of these time periods for the purposes of comparison, we were limited in our ability to conduct a comprehensive analysis on the temporal trend of decision outcomes, as we were unable to obtain data on the date each decision was made and the time taken to finalise each decision. The AAT provided the following justification for its refusal to grant access to this information: '[t]he impact of publication of this information in an isolated form on the AAT's capacity to meet its objectives. These objectives require both that the review process be fair, just, economical, informal and quick; and also that it be proportionate to the importance and complexity of the individual matter. The length of time taken over a review is not only due to the complexity of the individual case, but is often due to the granting of requests from applicants for time to make submissions or to gather additional evidence either from the applicant themselves or from the Department of Home Affairs or the Department of Foreign Affairs and Trade. If timeliness is promoted as a performance indicator above all others and in isolation from the importance and complexity of an individual review, it would have the potential to negatively impact the objectives under the AAT Act by way of members becoming less inclined to grant extensions of time or seek this further evidence. This could reasonably be expected to have a substantial adverse effect on the proper and efficient conduct of the operations of the agency if the information were to be disclosed.': AAT, 'Notice of Decision for Freedom of Information Requests no. 2022/0070' (24 October 2022) (on file with the authors).

[85] Due to the limited nature of our data, we considered a decision-maker to be reappointed during the 2020-22 period if they (a) made over 50 decisions in the 2015-2020 period; (b) were originally appointed before 2019; and (c) made decisions in the 2020-22 period.

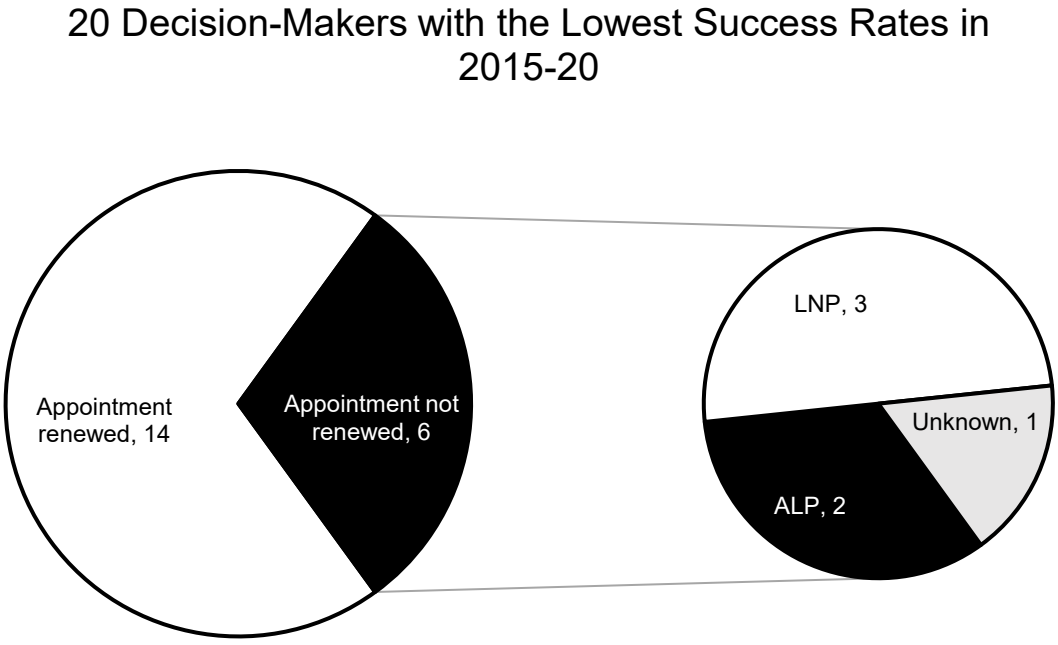
Further, of the 20 decision-makers (who heard more than 50 cases) with the highest acceptance rates in 2015-20, 80% (n=16) did not have their appointments subsequently renewed. 88% (n=14) of these decision-makers were first appointed by the ALP.

Figure 6: 20 Decision-Makers with the Highest Success Rates in 2015-2020



In comparison, of the 20 decision-makers with lowest acceptance rates, 30% (n=6) were first appointed by the ALP and 30% (n=6) did not have their appointments renewed.

Figure 7: 20 Decision-Makers with the Lowest Acceptance Rates in 2015-2020

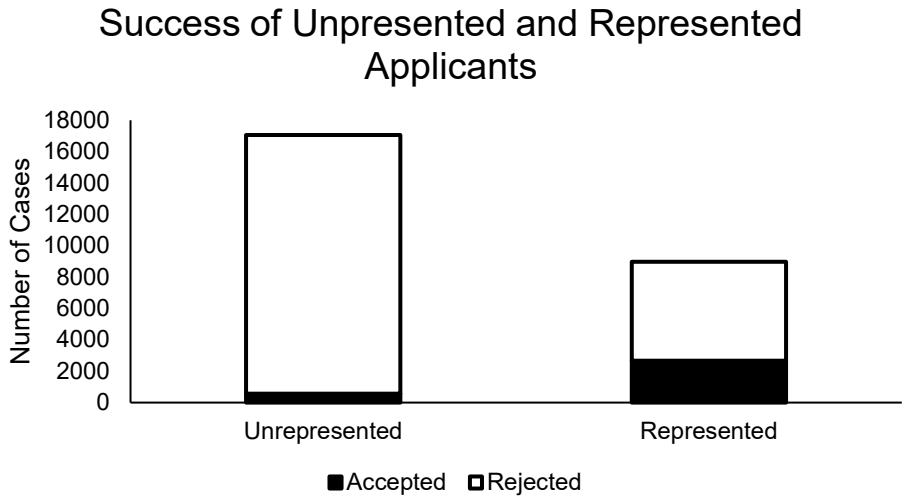


Caution is required when interpreting these figures, as the opaque nature of the re-appointment process makes it impossible to identify the factors that were considered when making each individual decision. They do, however, raise the possibility, and potential public perception, that political considerations in relation to how members are deciding cases may be influencing the chances of re-appointment. This further underscores the need for an independent merits-based process for appointing and re-appointing members, which is discussed further in Part V.C below.

C Legal representation

Representation by a lawyer or migration agent appears to significantly correlate with an increase in an applicant's chances of success.[86] Overall, 34% of Protection Visa applicants at the AAT had legal representation. On average, applicants with legal representation were 10 times more likely to succeed than self-represented applicants at the AAT. Self-represented applicants were successful in just 3% of cases (being 562 out of 17,055 applications), whereas represented applicants were successful in 30% of cases (being 2,674 out of 8,981 applications).

Figure 8: Success of Unpresented and Represented Protection Visa Applicants



After conducting logistic regression analysis, we found that applicants who were represented by a lawyer or migration agent were 450% (or 5.5 times) more likely to succeed than those without representation at the AAT (95% CI [4.86, 6.17]), when controlling for all other available variables.[87]

D Country of origin

An applicant's chance of success also varied depending on the country they were applying from (for countries with more than 50 applicants). Applicants from Tonga, Taiwan, Thailand, South Korea, Malaysia and Nepal were the least successful, being rejected in over 95% of their cases.

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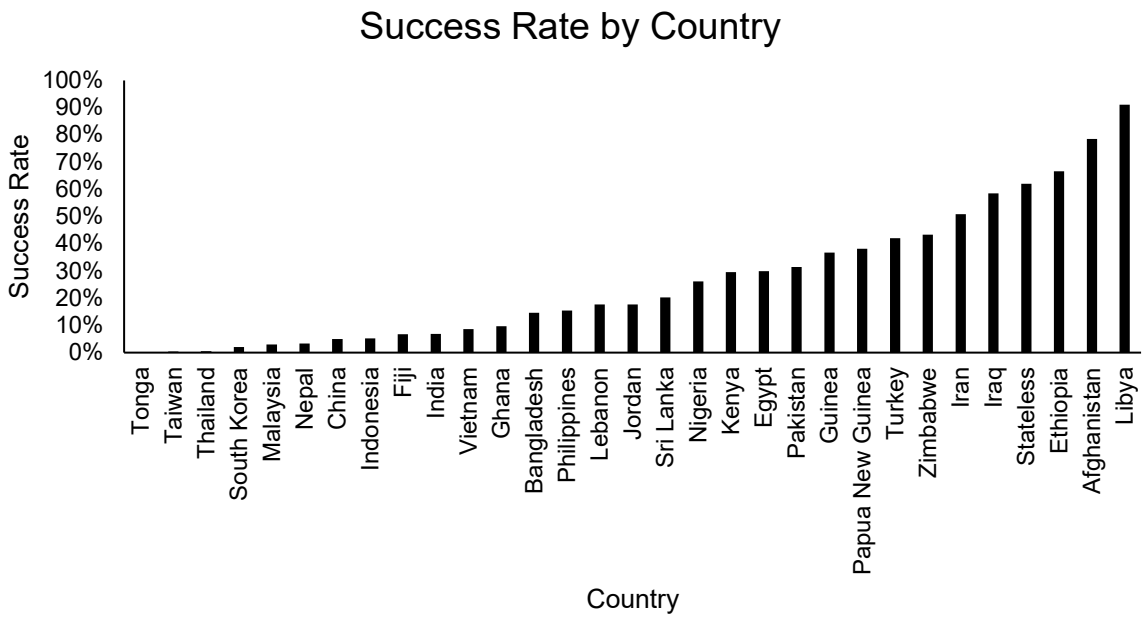
[86] The data made available to us did not distinguish between whether the representative was a migration agent or lawyer. Access to such data would facilitate future research that could identify the impact of different forms of representation on success rates.

[87] That is, the country of origin of the applicant, the individual tribunal member, the number of years' experience of the member at the tribunal, whether the member has legal training, the political party that appointed the member, and the gender of the member.

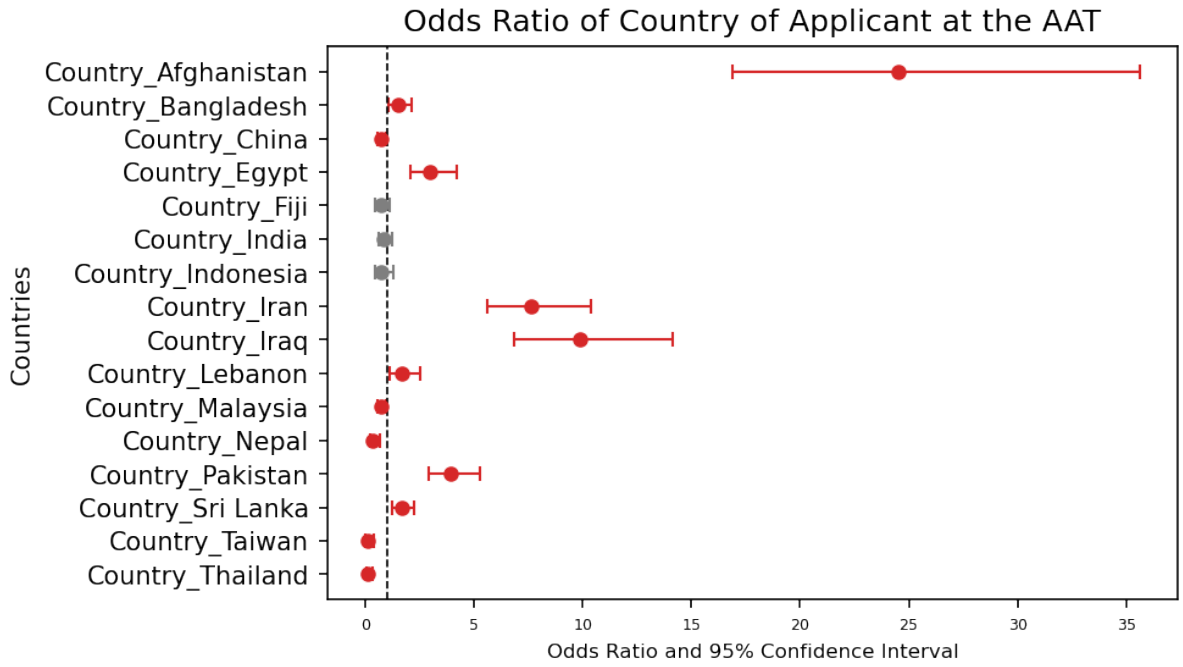
Meanwhile, applicants from Libya, Afghanistan and Ethiopia, and stateless applicants, had the highest rates of success, being granted a Protection Visa in over 60% of their cases.

Figure 9: Success Rate by Country



Even when controlling for whether the applicant as legally represented, the number of years' experience of the member at the tribunal, whether the member has legal training, the political party that appointed the member, and the gender of the member, we found that a Protection Visa applicant's chance of success varied considerably. As Figure 10 shows, when controlling for these variables in logistic regression analysis, an applicant's chance of success could range from 2,350% (or 24.5 times) higher than that of applicants from the median country (Vietnam), to 98% lower than the median, depending on the applicant's country of origin. The markers represent the odds ratio for each country in comparison to the median country (represented by the vertical dotted line at 1). The bars in Figure 10 indicate the 95% confidence intervals for the odds ratio of each country. The countries that have an odds ratio that deviates from the median at a statistically significant level are shown in red. Of the 17 countries included in the logistic regression, 76% (13 countries) were inconsistent with the median country.

Figure 10: Odds Ratio of Country of Applicant at the AAT



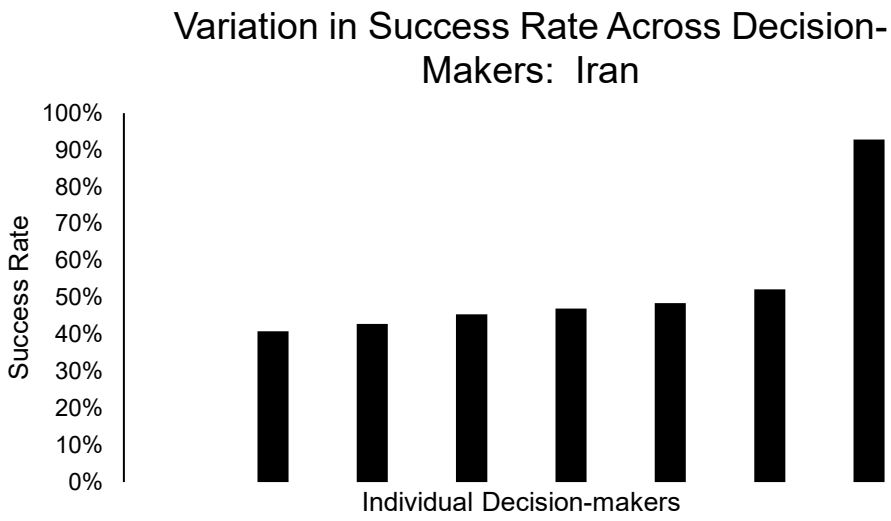
This variation is not unexpected; conditions in applicants' countries of origin are directly relevant to the merits of their Protection Visa application. However, success rates also varied significantly within countries. For example, the overall success rate of applicants from Pakistan was 31%. However, an applicant's chance of success ranged from 0% to 91%, depending on the tribunal member they appeared before (for decision-makers who decided more than 20 cases with applicants from Pakistan).

Figure 11: Variation in Success Rate Across Decision-Makers in Pakistan

We see a similar variation between tribunal members deciding cases for Iranian applicants. Again, here we focus on decision-makers who decided more than 20 cases. While the overall success rate for applicants from Iran was 51%, all 77 applicants before one member were unsuccessful. On the other hand, 93% (n=26) of applicants before another member were successful. Again, this variation may in part be due to tribunal members specialising in certain

types of claims, such as persecution on the basis of religion or membership of a particular social group. These different claim types may impact the merits of the case within specific countries and therefore may in part explain this variation.

Figure 12: Variation in Success Rate Across Decision-Makers in Iran



E Gender

The gender of the member did not appear to have a statistically significant relationship with the outcome of the case. Forty-three per cent (n=74) of AAT members were men, and they made 51% (n=13,207) of decisions in the dataset. The average success rate of applicants having their case decided by a man was 12.80%, slightly higher than the success rate of applicants appearing before a woman (12.04%). While controlling for all other available variables in the logistic regression analysis,[88] we found a 4% increase in an applicant's odds of success where the decision-maker was a man compared to a woman (95% CI [0.84, 1.10]). Thus, the gender of the decision-maker does not appear to have a significant association with an applicant's chance of success.

This result stands in contrast to previous studies which have found that the gender of a decision-maker has a significant association with the outcome of legal decision-making in the refugee context. However, the size and direction of this relationship varies depending on the context, with decisions made by women having higher success rates in some studies,[89] and lower success rates in others.[90] As such, it has been suggested that caution be used when inferring differences between the decision-making processes of men and women.[91] Indeed, recent

[88] That is, the country of origin of the applicant, whether the applicant was legally represented, the individual tribunal member, the number of years' experience of the member at the tribunal, whether the member has legal training, and the political party that appointed the member.
[89] Ghezelbash, Dorostkar and Walsh (n 9) 1109-10; Ramji-Nogales, Schoenholtz and Schrag (2009) (n 11) 347-8; Rehaag (2012) (n 11) 28.
[90] Jon B. Gould, Colleen Sheppard, and Johannes Wheeldon, 'A Refugee from Justice? Disparate Treatment in the Federal Court of Canada' (2010) 32 *Law and Policy* 454, 473-5; Sean Rehaag, 'Do Women Refugee Judges Really Make a Difference - An Empirical Analysis of Gender and Outcomes in Canadian Refugee Determinations' (2011) 23(2) *Canadian Journal of Women and the Law* 627, 640-1; Rehaag (2012) (n 11) 28.
[91] Rehaag (2012) (n 11) 31-2.

studies in a range of contexts have found that the role of gender in decision-making is not as significant as previous work indicated.[92]

F Legal background

Members at the AAT must either be enrolled as a legal practitioner for five years or have 'special knowledge or skills' relevant to their appointment.[93] This requirement was intended to ensure that decision-makers possessed a wide range of skills and experiences, not just a legal background.[94] However, the flexibility inherent in the 'special knowledge or skills' qualification has attracted criticism for facilitating the increase in unqualified political appointees, decrease in performance quality, and ongoing backlog within the AAT.[95] Justice Callinan, in his review of the AAT Act, recommended that:

> All further appointments, re-appointments or renewals of appointment to the Membership of the AAT should be of lawyers, admitted or qualified for admission to a Supreme Court of a State or Territory or the High Court of Australia […].[96]

On the other hand, several submissions to the Senate Committee Inquiry into the performance and integrity of Australia's administrative review system maintained that AAT members without legal qualifications have the potential to contribute greatly to the tribunal.[97] If the broadness of the 'special knowledge or skills' requirement is not exploited to license a non-merits-based appointment process, a valuable breadth of expertise can be brought to the review of administrative decisions, through the diversity in knowledge and experience that members hold. However, given the complexity of migration and refugee law and the extensive backlog of cases before the MRD, it has been recommended that members in that division are suitably well-trained in that area to ensure fair and efficient decision-making.[98]

Our data set allowed us to analyse the relationship between legal training and the acceptance rate in relation to Protection Visa applications. We identified that 68% of tribunal members had some form of legal training. These members made 61% of decisions. The average success rate of applicants appearing before a tribunal member with legal training was 13.14%, slightly higher than the average for tribunal members without legal training at 11.33%. However, when

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[92] See, eg, Jeffrey Rachlinksi and Andrew Wistrich, 'Judging the Judiciary by the Numbers: Empirical Research on Judges' (2017) 13 *Annual Review of Law and Social Science* 203, 207; Nicola Grissom and Teresa Reyes, 'Let's call the whole thing off: evaluating gender and sex differences in executive function' (2019) 44 *Neuropsychopharmacology* 86; Helena Fornwagner et al, 'On the robustness of gender differences in economic behavior' (2022) 12 *Sci Rep* 2154.

[93] *Administrative Appeals Act 1975* (Cth) ss 7(2)-(3).

[94] Attorney-General's Department, Submission No 5 to Senate Legal and Constitutional Affairs References Committee, *The Performance and Integrity of Australia's Administrative Review System* (March 2022) 5.

[95] Australia Institute (n 77) 2, 11-12, 26; Refugee Council of Australia, Submission No 16 to Senate Legal and Constitutional Affairs References Committee, *The Performance and Integrity of Australia's Administrative Review System* (March 2022) 3–4.

[96] Ian Callinan, *Report on the Statutory Review of the Tribunals Amalgamation Act 2015* (Final Report, 23 July 2019) 9.

[97] Greg Weeks, Submission No 7 to Senate Legal and Constitutional Affairs References Committee, *The Performance and Integrity of Australia's Administrative Review System* (March 2022) 4-5; Terry Carney, Submission No 8 to Senate Legal and Constitutional Affairs References Committee, *The Performance and Integrity of Australia's Administrative Review System* (March 2022) 3; Melbourne Law School, Submission No 14 to Senate Legal and Constitutional Affairs References Committee, *The Performance and Integrity of Australia's Administrative Review System* (March 2022) 4.

[98] Refugee Council of Australia (n 95) 7.

we controlled for all other available variables in the logistic regression analysis,[99] the odds of an applicant succeeding were 26% higher if the decision-maker did not have a legal background (95% CI [0.15, 0.36]). This appears to align with the findings of the recent review of a trial program of expert decision-making for National Disability Insurance Scheme (NDIS) dispute cases. The trial aimed to reduce the backlog of NDIS disputes at the AAT by introducing a program for independent expert review of cases, and it was found that non-legal independent experts were most likely to recommend accepting participants' requests, whereas legal experts were most likely to recommend partial acceptance.[100]

Again, it is crucial to note the need for caution in relying on this data to resolve the debate in relation to the appropriateness of members without legal training being appointed to the Tribunal, given that we were unable to control for all variables that could influence the outcome of the case, and moreover, that higher or lower acceptance should not be used to assess the quality of decision-making. There is thus the need for further empirical research into this issue, in order to better assess the effect of legal training on decision-making.

V LESSONS FOR THE NEW ADMINISTRATIVE BODY

While there is a need for caution when drawing any inferences from the data and analysis set out above, they do appear to paint of a picture of the AAT in which outcomes for Protection Visa applicants are potentially being shaped by factors other than the merits of their individual case. The most salient extraneous factors appear to be the tribunal member assigned to the case, the political party that appointed the member, and whether they have access to legal representation. We are not the first to raise concerns about this state of play. In October 2021, in response to concerns over the operation of the AAT, the Senate referred an inquiry into the performance and integrity of Australia's administrative review system to the Legal and Constitutional Affairs References Committee. The Committee's report, published in March 2022, found that the AAT has not been functioning in a way that is 'fair, just, economical, informal and quick'.[101] The Committee identified a 'need to start again' and recommended the replacement of the AAT with a body that meets those goals, while 'promoting public trust and confidence in the decision-making of the review body.'[102]

On 16 December 2022, the Attorney-General announced that the government would abolish the AAT and replace it with a new federal administrative body. It was subsequently announced that this body will be known as the Administrative Review Tribunal (ART). The proliferation of partisan appointments, extensive delays, and growing backlog were cited as justifications for the decision [103] Subsequently, the Attorney-General's Department released its *Administrative Review Reform: Issues Paper*, which sought views on the development of the new administrative review body.[104] As stated in the Issues Paper, the reforms aim to create a body that is independent, transparent, accessible, and efficient, and which also addresses the

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[99] That is, the country of origin of the applicant, whether the applicant was legally represented, the individual tribunal member, the number of years' experience of the member at the tribunal, the political party that appointed the member, and the gender of the member.
[100] National Disability Insurance Agency, *Independent Expert Review Program: Evaluation Report* (October 2023) 49.
[101] Senate Legal and Constitutional Affairs Committee (n 78) 91.
[102] Ibid 95-6.
[103] Dreyfus (n 5).
[104] See Attorney General's Department, *Administrative Review Reform: Issues Paper* (April 2023).

significant backlog of cases, particularly in the MRD.[105] Following the conclusion of the consultations, the government introduced the Administrative Review Tribunal Bill 2023 and Administrative Review Tribunal (Consequential and Transitional Provisions No. 1) Bill 2023 on 7 December 2023.[106] At the time of writing, these bills were still before parliament, and had been referred to the Senate Legal and Constitutional Affairs Committee, which was due issue its report on 24 July 2024.

While the ART reform process is ongoing, the median wait time to finalise a Protection Visa case is two years and two months,[107] and 54,401 asylum seekers are waiting for the AAT to review their application.[108] To address this backlog, it is crucial that the ART operates in a manner which is both fair and efficient. In what follows, we set out a number of recommendations for how data driven approaches can be leveraged to that end.

A Data-driven approach to design and ongoing evaluation

The development of the new administrative review body provides a once-in-a-generation opportunity to redesign Australia's federal administrative review system. It is crucial that reforms are informed by the best available evidence on the operation of the AAT and the insights that this provides in relation to areas for improvement. Going forward, the new administrative review body should embed robust data collection and transparency policies into its design from the outset. This will enable ongoing evaluation of the operation of the new body and its performance and provide a foundation for future evidence-based reforms. While the data presented in this article and made available through the Kaldor Data Lab provides a valuable starting point, as has been noted, it is subject to a number of limitations, based on the data points we were able to obtain through FOI requests. These limitations were reflected in the performance of our model by examining the residual plots, which measure the adequacy of our logistic regression model. The residual plots indicate room for improvement in the model, which could be achieved by obtaining additional data.[109] This would facilitate the exploration of other relationships between the predictors and outcomes, such as non-linear relationships, and the relationships between the predictors. For example, we were unable to access the date when individual cases were decided, or the time taken to finalise individual applications, which limit the opportunity to evaluate and provide recommendations around improving efficiency. Access to more detailed data of this nature, as well as more detailed data on the characteristics of cases, such as the claim category and claim type, would be invaluable, both in terms of informing the design of the new administrative body, as well as its ongoing evaluation and improvement.

The new administrative body should embed robust data collection and data transparency measures in its operations right from the outset. As noted in Part I, in the judicial context, the ALRC recently recognised and endorsed the utility of using statistical data to improve the function of the courts. The ALRC's Report on Judicial Impartiality recommended that: '[t]he

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[105] Ibid 5.
[106] A subsequent Administrative Review Tribunal (Consequential and Transitional Provisions No. 2) Bill 2024 was introduced on 7 February 2024.
[107] Administrative Appeals Tribunal (n 31) 38.
[108] Administrative Appeals Tribunal, *Migration and Refugee Division Caseload Report: Financial year to 31 May 2023* (Report, 2023) 1 <https://www.aat.gov.au/AAT/media/AAT/Files/Statistics/MRD-Detailed-Caseload-Statistics-2022-23.pdf>.
[109] See Appendix B for the residual plots.

Commonwealth courts (individually or jointly) should develop a policy on the creation, development, and use of statistical analysis of judicial decision-making.[110] Both administrative and judicial decision-making are changing rapidly with the development of new technologies that make access and analysis of such data easier. The new administrative review body should leverage the insights that data and statistics on decision-making can provide to monitor the functioning and performance of the body as a whole.

The AAT has in many ways been a leader and exemplar in terms of the internal collection and use of data on the outcomes of decision-making. These data collection practices are what enabled this research and provided the opportunity for us to obtain the data through FOI requests. The new ART should build on and expand these data collection practices, in order to enable it to anticipate and address increases in workload and identify areas in need of additional resources. Data and statistics are also an important tool that can assist the body in evaluating and improving the quality, efficiency and consistency of decision-making and identifying potential areas in need of improvement or reform. This data collection should also extend to complaints made against members. Evidence to the Senate Legal and Constitutional Affairs Committee revealed shortcomings in relation to the collection and use of data on complaints about AAT members.[111] The systematic collection of this data by the new ART will ensure that proper complaints procedures are followed, and are considered as part of a merits based re-appointment process.

Wherever possible, the new ART should make the data it collects publicly available. Publication of data is crucial to ensuring the new administrative review body achieves its objectives of transparency. In the words of former Chief Justice Gleeson of the High Court, 'all institutions of government exist to serve the community'.[112] By publishing this data, the community will be better informed about how the new ART is operating, which, in turn, can strengthen public confidence in the body. This data could be made available by the ART itself, or through the Administrative Review Council (ARC), that the government has committed to re-establishing. The ARC could be tasked with reviewing, analysing and publishing data on the decision-making and operation of the new administrative body.

B Using data to promote consistency

The results of our study demonstrate high levels of variation when it comes to the decision-making outcomes of individual members of the AAT in relation to Protection Visa applications. Some degree of variation can be explained by the merits and unique factors of each case, as well as the specialisation of members in certain types of claims and other variables we were unable to control for. However, there are also likely other factors at play.

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[110] Australian Law Reform Commission (n 7) Recommendation 13.

[111] Evidence to Senate Legal and Constitutional Affairs Committee, Parliament of Australia, Canberra, 7 November 2022, 46 (Jamie Crew, Chief Operating Officer, Administrative Appeals Tribunal); Evidence to Senate Legal and Constitutional Affairs Committee, Parliament of Australia, Canberra, 7 November 2022, 48 (Michael Hawkins, Registrar, Administrative Appeals Tribunal); Evidence to Senate Legal and Constitutional Affairs Committee, Parliament of Australia, Canberra, 4 August 2023, 658 (Michael Hawkins, Registrar, Administrative Appeals Tribunal).

[112] Justice Murray Gleeson, 'Public Confidence in the Courts' (Speech, National Judicial College of Australia, 9 February 2007) 2.

It is now well accepted that all human decision-making, including decision-making by judges and tribunal members, is influenced by a variety of cognitive tendencies that can cause unwanted variation in decision-making.[113] These unwanted influences come in two main forms: bias and noise.

Most existing studies in the legal context have focused on bias, and in particular cognitive and social biases.[114] In this context, cognitive biases refer to 'systemic tendencies in our thought process that can lead us to error', and 'social biases' are automatically formed impressions of people based on the social group they are a member of.[115] In some cases, bias may be explicit, in that a person holds certain 'attitudes and stereotypes that are consciously accessible through introspection *and* endorsed as appropriate.'[116] Far more common, however, are implicit biases, which are 'attitudes and stereotypes that are not consciously accessible through introspection.'[117] One of the key findings of the scientific research on bias is that biases exist even where decision-makers believe they are operating with impartiality and integrity.[118]

Noise captures a much wider concept. Kahneman et al define *system noise* as 'undesirable variability in judgements of the same case by multiple individuals'.[119] Noise manifests in different ways which can lead to the unpredictability of decisions. *Level noise* is variability in the average level of judgements by different decision-makers, which can be influenced by their overall 'harshness', 'conservatism' or 'activism'. *Pattern noise* covers situations where a decision-maker may be restrictive in certain types of cases, but less restrictive in others. Pattern noise can lead to a decision-maker generally leaning in a particular direction, but it also encompasses *occasional noise,* which is random variation in the way a decision-maker approaches similar cases at different times.

While bias can lead to noise, unwanted variability can also be caused by other more innocuous factors. As Kahneman et al note,

> [N]oisy judgements that different people make are largely determined by something that is neither a general bias of the individual nor transient and random: the persistent personal reactions of particular individuals to a multitude of features, which determine their reactions to specific cases.[120]

It is telling that the adjudication and review of asylum claims is one of the areas most commonly cited in the existing literature on noise in legal decision-making.[121] This is in part

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[113] Australian Law Reform Commission, 'Consultation Paper: Judicial Impartiality' (2021); Ghezelbash, Dorostkar and Walsh (n 9).
[114] See, for example, Jerry Kang, 'What Judges Can Do about Implicit Bias' (2021) 57(2) *Court Review* 78; Ghezelbash, Dorostkar and Walsh (n 9); Australian Law Reform Commission, 'Judicial Impartiality: Cognitive and Social Biases in Judicial Decision-Making' (Background Paper J16, April 2021); Australian Law Reform Commission, *Without Fear or Favour: Judicial Impartiality and the Law on Bias* (ALRC Report 138, December 2021).
[115] Tom Stafford, 'Biases in Decision-Making' (2017) (Winter) *Tribunals* 19, 19.
[116] Jerry Kang et al, 'Implicit Bias in the Courtroom' (2012) *UCLA Law Review* 1124, 1132.
[117] Ibid.
[118] Gary Edmond and Kirsty A Martire, 'Just Cognition: Scientific Research on Bias and Some Implications for Legal Procedures and Decision-Making' (2019) 82(4) *Modern Law Review* 633, 645.
[119] Daniel Kahneman, Olivier Sibony and Cass Sunstein, *Noise: A Flaw in Human Judgement* (William Collins: 2021).
[120] Ibid 212.
[121] Ibid 6-7, 17, 90-1, 174, 213.

the result of the rich body of existing quantitative research examining the decision-making outcomes of administrative and judicial decision-making in this context.[122] These studies not only demonstrate the high variability of decision-making outcomes, but also the possible influences of extraneous factors on decision-making. For example, in their study of asylum judges in the United States, Chen and Eagel found the decision to grant or refuse asylum may be influenced by a wide range of factors, including whether the hearing was before lunch or towards the end of the day, the size of the applicant's family; the weather; and the number of recent grants by the Court.[123] While the focus of much of the existing literature has been on the impact of cognitive and social biases, it is likely that noise is a bigger contributor to inconsistent decision-making.[124]

Several decades of research has resulted in much progress being made in understanding how humans process information and make judgments and decisions. Drawing on this research, Daniel Kahneman identifies two systems in the mind:

- System 1 operates automatically and quickly, with little or no effort or sense of voluntary control;
- System 2 allocates attention to effortful mental activities that demand it. The operations of System 2 are often associated with the subjective experience of agency, choice and concentration.[125]

An overreliance on System 1 thinking can increases the risk of cognitive and social biases or other unwanted influences in tribunal and judicial decision-making. The ALRC's recent Report on Judicial Impartiality drew on empirical research demonstrating that judges may be susceptible to a number of intuitions that may lead to bias when engaging in the more intuitive System 1 thinking.[126] This includes mental shortcuts and heuristics – common 'rules of thumb' for solving problems and processing information. These shortcuts are essential in guiding human behaviour and decision-making, helping to reduce cognitive overload in our information-rich lives. However, System 1 can also be influenced by unconscious biases. For example, System 1 thinking can open the door for stereotyping that can lead to inequitable outcomes for different groups within society. Moreover, as Kahneman et al note, System 1 thinking is much more likely to be influenced by noise.[127] While the focus of the ALRC report was on judicial decision-making, similar intuitions and resulting concerns apply in the context of the decision-making process of tribunal members.

Statistical analysis on the outcomes of decision-making can be used in a variety of ways to reduce both bias and noise in decision-making. The suggested interventions which follow all

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[122] See (n 9 - 14) and accompanying text above.
[123] Daniel Chen and Jess Eagel, 'Can Machine Learning Help Predict the Outcome of Asylum Adjudications?' (Proceedings of the 16th Edition of the International Conference on Artificial Intelligence and Law, London, 12–16 June 2017).
[124] Kahneman, Sibony and Sunstein (n 119) 5, 211.
[125] Daniel Kahneman, *Thinking, Fast and Slow* (Farrar, Straus and Giroux, 2011) 20-1. This work has been referred to by senior Australian judges. See, eg, Justice Stephen Gageler, 'Why Write Judgments?' (2014) 36(2) *Sydney Law Review* 189, 197.
[126] Australian Law Reform Commission (n 1) 112.
[127] Kahneman, Sibony and Sunstein (n 119) 161-175.

use data in different ways to prompt tribunal members to engage in the slower and more reflexive System 2 thinking that is less susceptible to both bias and noise.[128]

(a) Education activities for tribunal members

Data of the nature which we present in this article could be used in the context of ongoing education activities for tribunal members. The first step for addressing both bias and noise is to recognise and understand the potential role they could be playing in decision-making.[129] Data on the outcomes of decision-making can be used to raise awareness around the degree of variability the currently exists in the system. The data and analysis set out in this article provides a valuable starting point, but access to more detailed and nuanced data points would allow for a more accurate measure of the level noise in AAT decision-making in Protection Visa cases. This work would be further aided by carrying out a noise audit.[130] This would involve developing a set of fictitious case scenarios and presenting these to all members to independently deliberate on. Statistical analysis of the outcomes of that process can be used to measure the overall amount of noise, as well as the type of noise, and potential statistical biases in the responses. Analysis of the justifications provided by the decision-makers, including their reasoning, and identified facts which most influenced their decisions, would provide insights into the sources of variability in judgements.

Any such efforts, as well as the interventions discussed below, should also be accompanied by educating members in the tools of data analysis. As Daniel Chen argues, this would allow legal decision-makers to 'become better consumers' of data, 'and to more generally provide a set of thinking tools for understanding inference, prediction, and the conscious and unconscious factors that may influence their decision-making'.[131]

(b) Data as feedback tool

Data on the outcomes of decision-making can also be used as an ongoing feedback tool of members. This is a process known as 'post decision auditing'.[132] It is very difficult to spot the influence of bias or noise in a single case. However, if similar tribunal decisions are logged across time and multiple decision-makers, then data can reveal patterns in decision-making outcomes. Providing these statistics and feedback to members will give them information that they can use to reflect on their decision-making, exposing automatic System 1 thinking to the scrutiny of analytic and deliberative System 2 thinking. This intervention has been shown to be effective in reducing cognitive and social biases in the context of judicial decision-

[128] For a more in-depth analysis of System 1 and 2 thinking in this context, see our previous article: Ghezelbash, Dorostkar and Walsh (n 9) 1111-3. We acknowledge that there is ongoing debate concerning this binary distinction, see, eg, David Melnikoff and John Bargh, 'The Mythical Number Two' (2019) 22(4) *Trends in cognitive sciences* 280; Wim De Neys, 'On dual-and single-process models of thinking' (2021) 16(6) *Perspectives on psychological science* 1412.
[129] Kahneman, Sibony and Sunstein (n 119) 255.
[130] Ibid 379-385.
[131] Daniel Chen, 'Machine Learning and the Rule of Law' (TSE Working Paper No 18-975, December 2018) 7.
[132] Jeffrey J Rachlinkski et al, 'Does Unconscious Racial Bias Affect Trial Judges' (2009) 84(3) *Notre Dame Law Review* 1195, 130; John Irwin and Daniel Real, 'Unconscious Influences on Judicial Decision-Making: The Illusion of Objectivity' (2010) 42(1) *McGeorge Law Review* 19.

making,[133] particularly when coupled with some form of peer review or mentoring process.[134] Given the similar decision-making processes are undertaken by members of the tribunal, it is very likely that those findings in relation to the effectiveness of such an intervention would extend to administrative decision-makers. There is a strong body of empirical evidence from the behavioural sciences, that providing feedback on the consequences of behaviour and asking individuals to account for their behaviour to others is effective in countering bias against minority or disadvantaged groups.[135] To date, we are not aware of any empirical studies that have examined whether this process of post-decision auditing can be effective in reducing noise in legal decision-making. However, as noted above, System 1 thinking has been identified as more easily influenced by the unwanted cognitive errors that lead to noise. As such, by prompting more deliberative System 2 thinking, using data on outcomes of decision-making as a feedback tool, should in theory, also reduce noise.[136]

We thus recommend that the new ART adopts a rigorous approach to collecting data on the outcomes of individual decision-making and using this as a feedback tool for members. A policy on the use of statistical analysis of tribunal decision-making for the purpose of identifying and addressing noise and the potential influence of cognitive and social biases in decision-making would promote consistency within the new tribunal.

Justice SC Derrington, then President of the ALRC, provided some examples of how data could be used in this way in the judicial context*:*

> The data could potentially be useful in relation to bias and unconscious bias… A head of jurisdiction might be alerted to a statistic that shows that a particular judge has never found in favour of a refugee, for example…
>
> But that might only be enough to raise a question and then to look at the nature of cases being allocated to that particular judge, to look at if there have been appeals of decisions of that particular judge, and if so whether those appeals have been successful.
>
> So it might just be enough to ask a question and to ask a question of the judge themselves – have you reflected deeply enough on your own biases before you have made your decision on these cases.[137]

In the specific context of the new administrative review body, this would involve providing members the opportunity to account for their decision-making to the heads or executive team of their respective divisions.

However, there is evidence which suggests that publishing data on outcomes of decision-making publicly is a more impactful. With respect to counteracting social and cognitive biases in particular, there is a robust body of social science research demonstrating that making data public can be an even more effective intervention than the internal use of data as a feedback

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[133] Ibid. See also Ghezelbash et al, Submission No 29 to the Australian Law Reform Commission, *Review of Judicial Impartiality* (June 2021).
[134] Rachlinkski et al (n 132), 1230; Irwin and Real (n 132) 9.
[135] Thomas E Ford et al, 'The Role of Accountability in Suppressing Managers' Preinterview Bias against African-American Sales Job Applicants' (2004) 24(2) *Journal of Personal Selling and Sales Management* 113, 113–24.
[136] On this point, see Chen (n 131) 5, arguing that 'Simply alerting judges to the fact that their behaviour is highly predictable in ways that may indicate unfairness may be sufficient to change their behaviour'.
[137] 'Life, Death and the Law', *ABC's Law Report,* 9 August 2022 <https://www.abc.net.au/radionational/programs/lawreport/law-archie-battersbee/101317000>.

tool alone.[138] The effectiveness of publishing data on reducing noise and counteracting social and cognitive biases would be stronger if the data was compiled and published by the new tribunal or the ARC or similar body. The fact that data was scrutinised, collected and published by the tribunal or ARC (rather than academics) would be a more significant form of accountability. At the same time, as discussed above, its impact in increasing public confidence in the new body through transparency would also be enhanced.

(c) AI assisted decision-making tools

There is also scope for data on the outcomes of decision-making to be used as interventions that provide behavioural nudges to members during the actual decision-making process. In contrast to post-decision auditing discussed above, this would involve using machine learning techniques to detect and intervene in real time, in situations where tribunal members decision-making may be most likely to be influenced by social and cognitive biases or other unwanted cognitive influences.[139] Such interventions would rely on the notion of early predictability.[140] This involves using machine learning to predict the outcome of a case based on information available prior to the decision-maker commencing their deliberations. For example, Chen et el developed a model for early predictability of the outcome of refugee cases heard by immigration judges in the United States.[141] Using only information on the identity of the judge and the applicant's nationality the model was able to predict the outcomes of cases with 71% accuracy.[142]

Data from such predictive tools could be incorporated into assisted decision-making tools to identify and flag cases where the model's prediction of whether a member will grant or deny an application significantly deviates from the average predicted outcome across all members. Take for an example a member who is assigned a Protection Visa case with an applicant from Pakistan. The model may estimate that the member's likelihood of granting protection to an applicant from Pakistan is 10%, while the average is 50%. While this does not speak to whether the member's decisions are appropriate, it can serve as a basic indicator of outlier decision-making. There is also scope for developing more complex models that can capture more detailed case characteristics and how these interact with the coded attributes of specific members. Where the model identifies a significant deviation in the predicted outcome, the member can be given a 'red flag' that they should be particularly attuned to future subsequent information, essentially as a counter-weight to confirmation bias and other non-legal sources of influence.'[143]

Making members aware of this deviation could be a trigger for more reflective thinking and deliberation, and increase use of System 2 thinking which is less prone to the influence of cognitive and social biases, and other factors than can contribute to noise. Such an intervention

[138] Ghezelbash et al (n 133).
[139] Chen (n 131).
[140] Matt Dunn, Levent Sagun, Hale Sirin and Daniel Chen, 'Early Predictability of Asylum Court Decisions' (TSE Working Paper No 17-781, Toulouse School of Economics, 2017).
[141] Ibid.
[142] Ibid. See, also, Panagiota Katsikouli, et al, 'Machine Learning and Asylum Adjudications: From Analysis of Variations to Outcome Predictions' (2022) 10 *IEEE Access* 130955.
[143] Chen (n 131) 6.

would be most effective in 'hard cases' where the member is closer to indifference between options, which are the exact situations where both bias and noise are most likely to manifest.[144]

The use of post-decision auditing, whether done privately or through published statistics, as well as AI assisted decision making tools, have applications beyond the administrative review of refugee cases and could potentially be used across all decision-making areas of the new tribunal to reduce noise and the influence social and cognitive biases generally, or with respect to any specific areas of decision-making that may be identified as particularly prone to such unwanted influences.[145]

One final important note is that for any of these interventions to be effective, members will need to have the time and capacity to engage in the type of System 2 'slow thinking' the interventions seek to promote. This stands in direct tension with the pressure on members to finalise cases quickly and to address the current backlog of cases before the MRD, which the ART will inherit. In the judicial context, research suggests that reducing judges' caseloads allows them to invest more time and resources in individual cases, and thus rely less on the stereotypes and biases of System 1 thinking when making decisions.[146] Thus, it is likely that the above interventions will be most effective in promoting consistent decision-making if tribunal members are simply given more time. In light of this, we welcomed the Attorney-General's appointment of 93 additional members to the AAT across September and October 2023 (who will transition to the new ART once it is established), with the majority being assigned to the MRD.[147] However, with a backlog of over 56,000 cases before the MRD,[148] the new ART should consider broader systematic approaches to reducing members' caseloads, in order to create an environment conducive to the type of slow thinking that is essential for reducing unwanted variation in decision-making outcomes.

C Merits-based appointment process

The data analysed in this article raises questions about the potential impacts of the former politicised process for appointing and reappointing members to the AAT on decision-making outcomes. The analysis suggests that a member's appointing party has significant relationship with the outcome of an application, and that there is strong correlation between a member's acceptance rate, and the likelihood of them being reappointed. In light of these concerns, we welcomed the Attorney-General's announcement in December 2022 that the new administrative review body would be adopting a transparent merits-based process for the appointment of members.[149]

A transparent merits-based selection process, incorporated into the legislation of the new body, will assist in ensuring that the outcome of a case is not influenced by political considerations. Moreover, it will also likely contribute to reducing noise and bias in decision-making. As

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[144] Ibid 5.
[145] See, eg, the proposals to use this form of statistical data to address the influence of social and cognitive biases against First Nations people in judicial decision-making: Ghezelbash et al (n 133); National Justice Project, Submission No 44 to the Australian Law Reform Commission, *Review of Judicial Impartiality* (July 2021).
[146] Tamar Kricheli-Katz and Keren Weinshall, 'Judging fast or slow: The effects of reduced caseloads on gender- and ethnic-based disparities in case outcomes' (2023) *Journal of Empirical Legal Studies* 1.
[147] Mark Dreyfus, Attorney-General, 'Appointment of additional Members to the Administrative Appeals Tribunal' (Media Release, 4 October 2023) <https://www.markdreyfus.com/media/media-releases/appointment-of-additional-members-to-the-administrative-appeals-tribunal-mark-dreyfus-kc-mp-1/>.
[148] Administrative Appeals Tribunal (n 31) 21.
[149] Dreyfus (n 5).

Kahneman et al note, '[j]udgements are both less noisy and less biased when those who make them are well trained, are more intelligent, and have the right cognitive style.'[150]

A merits-based selection process is also important for improving the efficiency of the AAT. The Senate Committee's report *The performance and integrity of Australia's administrative review system,* identified the political appointments of underqualified members as contributing to the delays and backlog in the Migration and Refugee Division of the AAT.[151] On the other hand, it is undoubtedly true that certain politically appointed tribunal members are well-qualified and perform their duties proficiently. However, in the past, such members faced a real prospect of not having their appointments renewed when the government changes, thus jeopardising the effective and fair operation of the AAT.[152]

While there are many considerations involved in the decision to reappoint members, longer fixed term appointments, and clearer and more objective criteria for the re-appointment process would alleviate any potential public perceptions of political interference in the new administrative review body's operations. Such public perceptions have the power to cause serious harm to the new body, regardless of whether appointees perform their duties competently.[153]

In order to further protect against politically motivated reappointments, members should not be eligible for reappointment until their last year in the role. In 2019, the then Law Council President Authur Moses SC expressed concern over the practice of reappointing AAT members immediately before elections, but well before their terms are due to expire:[154]

> There is a concern that reappointment of members well before the expiry of their current terms, in the context of an upcoming Federal election, may give rise to a reasonable apprehension that decisions are affected by political considerations and therefore compromises the reputation of the Tribunal.

Indeed, this practice was repeated again before the 2022 federal election,[155] reigniting concerns over the independence of the AAT.[156]

Further, a transparent reappointment process would protect members from the 'threat of non-renewal', which is believed to pressure members into complying with partisan motives.[157] Under current practices, members without judicial tenure are expected to show 'singular moral courage and depth of character' in order to resist political influences.[158]

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[150] Kahneman, Sibony and Sunstein (n 119) 225.
[151] Senate Legal and Constitutional Affairs Committee (n 78) 54 [4.81].
[152] Grove and Weeks (n 29) 288.
[153] Janina Boughey, 'A Call for Ongoing Political Commitment to the Administrative Law Project' (2021) 28 *AJ Admin L* 242, 249 cited in Grove and Weeks (n 29) 288.
[154] Law Council of Australia, 'AAT appointments must be transparent and merit-based' (Media Release, 22 February 2019) <https://lawcouncil.au/media/media-releases/aat-appointments-must-be-transparent-and-merit-based>.
[155] See, eg, Paul Karp, 'Pru Goward among six Liberal-linked appointments by Coalition to Administrative Appeals Tribunal', *The Guardian* (online, 4 April 2022) <https://www.theguardian.com/australia-news/2022/apr/04/pru-goward-among-six-liberal-linked-appointments-by-coalition-to-administrative-appeals-tribunal>.
[156] See, eg, Grattan Institute, *New politics: A better process for public appointments* (Report, 2022) 22-3.
[157] Grove and Weeks (n 29) 290.
[158] *Re Singh* [2017] AATA 850, [18] (Logan J), quoted in Grove and Weeks (n 29) 290.

The reappointment process should be governed by clearly articulated objective criteria, including KPIs relating to efficiency and fairness of the decision-making of the member, and clearly exclude any considerations as to whether members were deciding cases in a manner that aligns with the subjective objectives of the government of the day.[159]

D Access to legal representation

The data examined in this article points to the importance of access to representation for Protection Visa applicants. An applicant's chances of success before the AAT are significantly higher when they are represented by a lawyer or migration agent. Some of this increase may be attributable to the merits screening process that prospective representatives undertake before accepting a case. This creates some selection bias in our data, with those with significant prosects of success more likely to secure representation, than cases with lower chances of success. However, there is a strong body of existing research showing that legal representation can contribute to both the fairness and efficiency of decision-making. In terms of efficiency, case selection by representatives ensures the meritorious cases come before the tribunal. In addition, the assistance that representatives provide to applicants, in terms of preparing their case and developing an understanding of the procedures, enables decision-makers to more quickly and accurately assess the applicant's claim.[160]

Recent studies in Canada have emphasised that legal representation, and in particular quality legal representation, is one of the most significant factors in the efficient and fair determination and review of refugee status decisions.[161] Similar studies in the Unites States have analysed immigration court data, finding that legal representation is the greatest predictor of an asylum seeker's success before the courts. Representation, they found, not only supports asylum seekers to have their claims heard meaningfully, but is crucial to the efficiency of the asylum system: represented applicants were less likely to bring unmeritorious claims and more likely to appear at future hearings.[162] Likewise, in the United Kingdom, research has linked legal

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[159] On this point, see the Law Council of Australia, *Submission to the Attorney-General's Department responding to the Administrative Review Reform: Issues Paper* (12 May 2023) <https://lawcouncil.au/resources/submissions/administrative-review-reform-issues-paper> 26.

[160] Daniel Ghezelbash and Jane McAdam, 'Why the government's plan to overhaul the asylum system is a smart use of resources – and might just work', *The Conversation* (online, 5 October 2023) <https://theconversation.com/why-the-governments-plan-to-overhaul-the-asylum-system-is-a-smart-use-of-resources-and-might-just-work-215061>; Jane McAdam , 'Scrapping legal aid for refugees will cost Australia more than it saves', *The Guardian* (online, 1 April 2014) <https://www.theguardian.com/commentisfree/2014/apr/01/scrapping-legal-aid-for-refugees-will-cost-australia-more-than-it-saves>.

[161] Craig Damian Smith, Sean Rehaag and Trevor Farrow, *Access to Justice for Refugees: How Legal Aid and Quality of Counsel Impact Fairness and Efficiency in Canada's Asylum System* (Report, 2021) 28-9; Jamie Chai Yun Liew et al, 'Not Just the Luck of the Draw? Exploring Competency of Counsel and Other Qualitative Factors in Federal Court Refugee Leave Determinations (2005-2010)' (2021) 37(1) *Refuge* 61, 70; Nicholas Fraser, 'More than advocates: Lawyers' role in efficient refugee status determination' (2022) 65(2) *Canadian Public Administration* 647, 664. See, also, Sean Rehaag, 'The role of counsel in Canada's refugee determinations system: An empirical assessment' (2011) 49 *Osgoode Hall LJ* 71, 116.

[162] Andrew Schoenholtz and Jonathan Jacobs, 'The state of asylum representation: Ideas for change' (2002) 16(4) *Georgetown Immigration Law Journal* 739, 743-4, 764; Ramji-Nogales, Schoenholtz and Schrag (2007) (n 11) 340; Ingrid Eagly and Steven Shafer, 'A national study of access to counsel in immigration court' (2015) 164 *U. Pa. L. Rev.* 1, 2, 9.

representation to positive effects on both the accuracy of asylum decisions and the efficiency of asylum procedures.[163]

This underscores the benefits of investing in funding for free legal advice for Protection Visa applicants in Australia. Recent years have seen a significant reduction in the funding for such services.[164] In this context, we welcome the government's recent announcement committing over $48 million to funding legal services for asylum seekers throughout the application and review process. This is part of a broader $160 million investment aimed enhancing the fairness and efficiency of Australia's onshore asylum system, which also includes substantial investment increasing decision making capacity at the Department of Home Affairs, the administrative tribunal and in the courts.[165] While this additional investment is much needed and very welcome, there is need for broader discussion, consultation and reflection on how this additional capacity can be deployed in a way that maximises both fairness and efficiency. This should be based on the best available data, including of the nature we present in this article in relation to the operation of the AAT.

VI CONCLUSION

The data and statistical analysis presented in this article provides new insights into the way AAT members decide Protection Visa applications and some variables which may impact their decision-making. We found high levels of variation in success rates among tribunal members, even once other available variables were controlled for, suggesting that the member deciding an application may have a significant effect on the outcome. Other factors, such as the political party who appointed a tribunal member and whether the applicant was represented, were also associated with sizeable influence on an applicant's chance of success. We do not draw causal inferences from our results; rather, we presented our analysis as a first step in an iterative process of data modelling for administrative decision-making. By publishing our results, we hope to encourage further data collection in Australia, allowing for the improvement of our preliminary model and more robust analysis.

We drew on our analysis to provide a number of concrete recommendations for the role that statistical analysis of decision-making can play in the design, operation and ongoing evaluation of the new ART. Embracing a data-driven approach will greatly assist the new tribunal in addressing the significant challenges it will face. These include the large backlog of Protection Visa applications it will inherit, and the erosion of public trust caused by the politicisation of the process for appointing members to the AAT. Making data publicly available would promote the transparency of the ART which is essential to increasing public confidence in the new body. Moreover, as we have discussed in length, such an approach would also enable addressing

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[163] Emma Jane Borland, 'Fairness and the right to legal aid in asylum and asylum related cases' (2016) 2(3) *International Journal of Migration and Border Studies* 245, 246, 262; Sonia Morano-Foadi et al, 'The Stratification of Rights and Entitlements: Access to Residency, Welfare and Justice by Migrants in the UK' in Marie-Claire Foblets and Jean-Yves Carlier (eds) *Law and Migration in a Changing World* (Springer, Cham, vol 31, Ius Comparatum - Global Studies in Comparative Law, 2022) 723, 740-2.

[164] Scott Morrison, Minister for Immigration and Border Protection , 'End of taxpayer funded immigration advice to illegal boat arrivals saves $100 million' (Media Release, 31 March 2014) <pandora.nla.gov.au/pan/143035/20140402-1303/www.minister.immi.gov.au/media/sm/2014/sm213047.htm>.

[165] Andrew Giles, Mark Dreyfus and Clare O'Neil, 'Restoring integrity to our protection system' (Media Release, 5 October 2023) <https://minister.homeaffairs.gov.au/AndrewGiles/Pages/restoring-integrity-protection-system.aspx>.

concerns around inconsistency in decision-making, which have long been well known to lawyers and Protection Visa applicants, but which we quantify for the first time in this article.

VII APPENDIX

A Logistic regression code

```
# Import library packages
import pandas as pd
import statsmodels.api as sm
# Upload and read the data
tdata = pd.read_csv([file location])
# Recategorise those values that had less than a 1% presence in the data and
assign them to category labelled as 'other'
tdata.loc[tdata['Member'].value_counts()[tdata['Member']].values < 260, 'Member']
= "OtherDM"
tdata.loc[tdata['Country'].value_counts()[tdata['Country']].values < 260,
'Country'] = "OtherCountry"
# Transfer categorical variables (country and member) to dummy variables
df = pd.get_dummies(data=tdata, columns = ['Country','Member'],drop_first=True)
df.head()
# Check for multicollinearity using variance inflation factor (VIF)
from statsmodels.stats.outliers_influence import variance_inflation_factor
def calc_vif(X):
      # Calculating VIF
      vif = pd.DataFrame()
      vif["variables"] = X.columns
      vif["VIF"] = [variance_inflation_factor(X.values, i) for i in
range(X.shape[1])]
      return(vif)
X = df.iloc[:,:-1]
calc_vif(X)
# Separate data into predictors and outcome
predictors = df.iloc[: , 1:]
outcome = df['Outcome']
# Perform logistic regression analysis
predictors['intercept'] = 1.0
logit = sm.Logit(outcome, predictors)
result = logit.fit()
result.summary()
```

For plotting the logistic regression residuals, we followed the approach in *Python for Data Science*:[166]

```
      fig, (axL, axR) = plt.subplots(2, figsize=(15, 15))
      plt.suptitle("Logistic Regression Residual Plots \n using Seaborn Lowess
      line (N = 400)")
      # Deviance Residuals
      sns.regplot(result.fittedvalues, result.resid_dev, ax= axL,
                  color="black", scatter_kws={"s": 5},
                  line_kws={"color":"b", "alpha":1, "lw":2}, lowess=True)
      axL.set_title("Deviance Residuals \n against Fitted Values")
      axL.set_xlabel("Linear Predictor Values")
      axL.set_ylabel("Deviance Residuals")
      # Studentized Pearson Residuals
      sns.regplot(result.fittedvalues, result.resid_pearson, ax= axR,
```

[166] 'Logistic Regression', *Python for Data Science* <https://www.pythonfordatascience.org/logistic-regression-python/>.

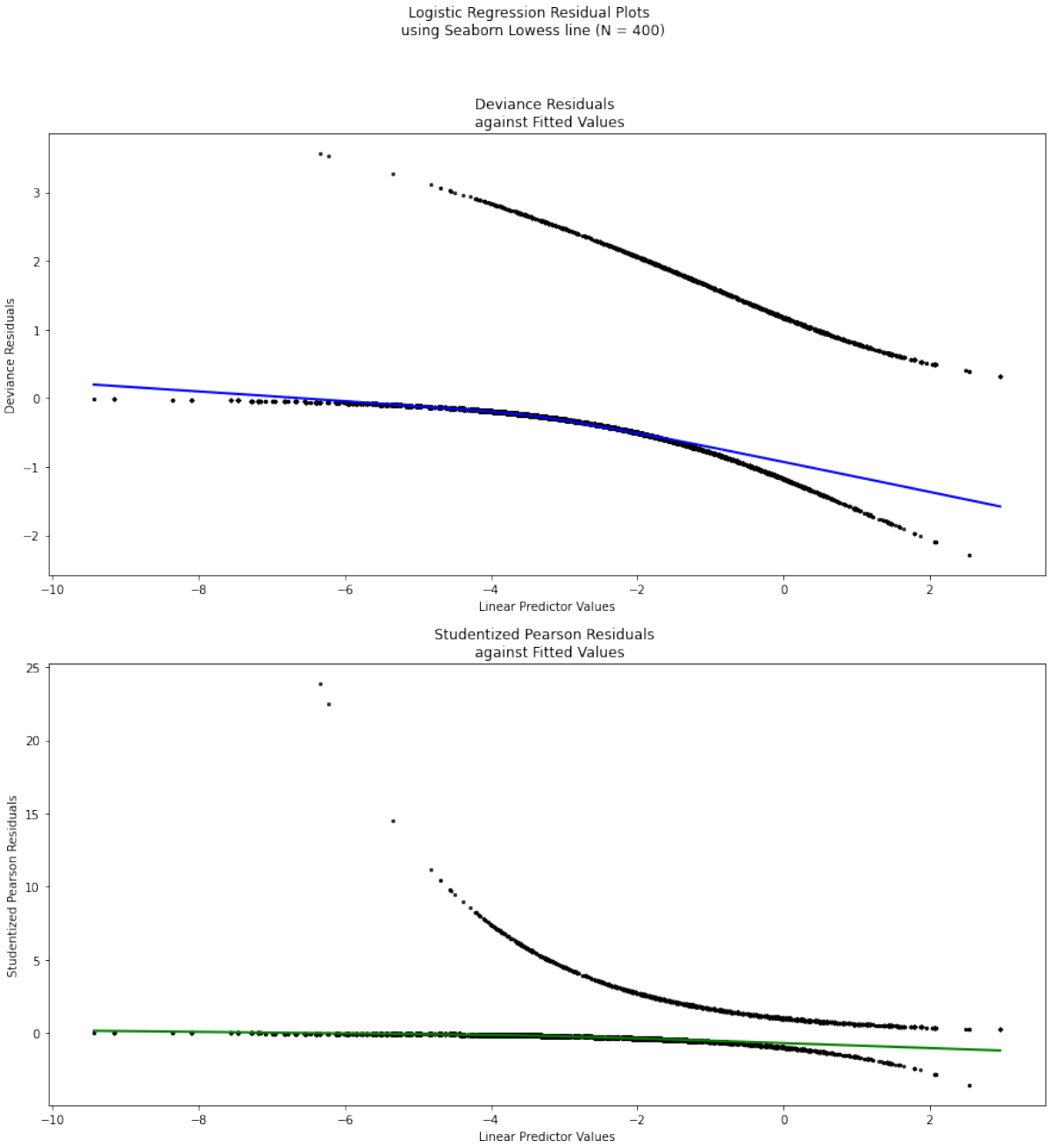
```
                color="black", scatter_kws={"s": 5},
                line_kws={"color":"g", "alpha":1, "lw":2}, lowess=True)
axR.set_title("Studentized Pearson Residuals \n against Fitted Values")
axR.set_xlabel("Linear Predictor Values")
axR.set_ylabel("Studentized Pearson Residuals")
plt.show()
```

B Logistic regression results

Logistic Regression Results							
Dep. Variable:	Outcome		**No. Observations:**		26036		
Model:	Logit		**Df Residuals:**		25975		
Method:	MLE		**Df Model:**		60		
Date:	Sat, 04 Nov 2023		**Pseudo R-squ.:**		0.3300		
Time:	10:14:49		**Log-Likelihood:**		-6548.4		
converged:	True		**LL-Null:**		-9773.5		
Covariance Type:	nonrobust		**LLR p-value:**		0.000		
	coef (β)	**std err**	**z**	**P>|z|**	**[0.025**	**0.975]**	
Rep	1.7009	0.061	28.064	0.000	1.582	1.820	
Year	0.0377	0.007	5.579	0.000	0.024	0.051	
PolParty	0.2586	0.071	3.646	0.000	0.120	0.398	
Gender	-0.0444	0.069	-0.645	0.519	-0.179	0.091	
Legal	-0.3069	0.073	-4.218	0.000	-0.449	-0.164	
Country_Afghanistan	3.3359	0.196	17.059	0.000	2.953	3.719	
Country_Bangladesh	0.6730	0.184	3.658	0.000	0.312	1.034	
Country_China	-0.0275	0.154	-0.179	0.858	-0.329	0.274	
Country_Egypt	1.5985	0.189	8.440	0.000	1.227	1.970	
Country_Fiji	0.0121	0.230	0.053	0.958	-0.439	0.463	
Country_India	-0.0039	0.180	-0.022	0.983	-0.357	0.349	
Country_Indonesia	-0.1451	0.291	-0.498	0.619	-0.716	0.426	
Country_Iran	2.4335	0.163	14.915	0.000	2.114	2.753	
Country_Iraq	2.9172	0.203	14.397	0.000	2.520	3.314	
Country_Lebanon	0.8234	0.210	3.917	0.000	0.411	1.235	
Country_Malaysia	-0.3023	0.154	-1.961	0.050	-0.604	-0.000	
Country_Nepal	-0.7012	0.311	-2.254	0.024	-1.311	-0.092	
Country_OtherCountry	1.8068	0.146	12.365	0.000	1.520	2.093	
Country_Pakistan	1.5411	0.153	10.075	0.000	1.241	1.841	

Country_Sri Lanka	0.6593	0.153	4.302	0.000	0.359	0.960
Country_Taiwan	-2.2782	0.725	-3.143	0.002	-3.699	-0.858
Country_Thailand	-2.0076	0.434	-4.622	0.000	-2.859	-1.156
Member_1	0.5695	0.295	1.931	0.053	-0.009	1.147
Member_2	-0.4997	0.346	-1.445	0.148	-1.177	0.178
Member_3	1.0731	0.300	3.576	0.000	0.485	1.661
Member_4	0.1312	0.285	0.460	0.645	-0.427	0.690
Member_5	0.3205	0.298	1.076	0.282	-0.263	0.904
Member_6	-0.8405	0.347	-2.424	0.015	-1.520	-0.161
Member_7	0.5862	0.302	1.944	0.052	-0.005	1.177
Member_8	-0.5248	0.292	-1.800	0.072	-1.096	0.047
Member_9	-0.7215	0.317	-2.279	0.023	-1.342	-0.101
Member_10	0.3807	0.310	1.227	0.220	-0.227	0.989
Member_11	-0.1093	0.367	-0.298	0.766	-0.828	0.610
Member_12	-1.2944	0.355	-3.644	0.000	-1.991	-0.598
Member_13	0.0721	0.306	0.236	0.814	-0.528	0.672
Member_14	-0.2890	0.311	-0.929	0.353	-0.899	0.321
Member_15	0.4236	0.328	1.292	0.196	-0.219	1.066
Member_16	0.2946	0.343	0.859	0.391	-0.378	0.967
Member_17	-1.1652	0.398	-2.925	0.003	-1.946	-0.384
Member_18	-1.3435	0.315	-4.266	0.000	-1.961	-0.726
Member_19	-0.8640	0.281	-3.074	0.002	-1.415	-0.313
Member_20	-2.8086	0.586	-4.792	0.000	-3.957	-1.660
Member_21	0.4911	0.311	1.580	0.114	-0.118	1.100
Member_22	1.3955	0.297	4.695	0.000	0.813	1.978
Member_23	0.3660	0.301	1.218	0.223	-0.223	0.955
Member_24	-1.7834	0.527	-3.382	0.001	-2.817	-0.750
Member_25	0.6091	0.272	2.236	0.025	0.075	1.143
Member_26	0.5866	0.306	1.915	0.055	-0.014	1.187

Member_OtherDM	-0.1238	0.245	-0.506	0.613	-0.603	0.355
Member_27	0.3535	0.348	1.016	0.310	-0.329	1.036
Member_28	-0.4409	0.287	-1.537	0.124	-1.003	0.121
Member_29	0.2123	0.314	0.677	0.499	-0.403	0.827
Member_30	-4.0393	0.427	-9.453	0.000	-4.877	-3.202
Member_31	-1.3741	0.333	-4.124	0.000	-2.027	-0.721
Member_32	0.3055	0.301	1.017	0.309	-0.283	0.895
Member_33	0.2476	0.332	0.745	0.456	-0.404	0.899
Member_34	-0.9309	0.317	-2.940	0.003	-1.551	-0.310
Member_35	-0.0391	0.319	-0.123	0.902	-0.665	0.587
Member_36	0.9309	0.349	2.670	0.008	0.247	1.614
Member_37	-0.2999	0.288	-1.041	0.298	-0.865	0.265
intercept	-3.3441	0.278	-12.008	0.000	-3.890	-2.798


Logistic Regression Residual Plots
using Seaborn Lowess line (N = 400)
Deviance Residuals
against Fitted Values
Deviance Residuals
Linear Predictor Values
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