Indeterminacy, Disagreement and the Human Rights Act:

An Empirical Study of Litigation in the UK House of Lords and Supreme Court 1997–2017

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Abstract

This article explores the impact of the Human Rights Act 1998 (HRA) on the decision making of the House of Lords (UKHL) and the UK Supreme Court (UKSC). How does Convention rights content vary across areas of law in the UKHL/UKSC? Are some judges more likely than others to engage in Convention rights discourse? Is judicial disagreement more common in cases with higher levels of Convention rights discourse? This paper develops a robust method of answering questions of this nature which it applies to decisions of the UKHL/UKSC. It is shown that the Convention rights content of decisions has (i) varied over time, increasing until around 2006, then plateauing and then gradually declining; and (ii) varied over substantive areas of law, being especially prevalent in cases relating to public law and crime. It is also shown how higher levels of human rights discourse are associated with greater levels of disagreement. A benchmarked measure of human rights content is developed to show the effect of the particular judge on the human rights content, illustrating the indeterminacy in human rights discourse and how its deployment can be contingent on judicial attitudes.

Keywords: Human Rights Act 1998 – Disagreement – Dissent – Vagueness – Indeterminacy – UK Supreme Court – House of Lords – Judicial decision making.

A

BACKGROUND

In recent years significant political[1] and popular hostility[2] has arisen in respect of decisions made by the European Court of Human Rights (ECtHR), most notably the

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[1] The political hostility is discussed in E. Bates, 'Analysing the Prisoner Voting Saga and the British Challenge to Strasbourg' (2014) 14 *Human Rights Law Review* 503, M. Amos; 'The Value of the European Court of Human Rights to the United Kingdom' (2017) 28(3) *European Journal of International Law* 763,

rulings of the ECtHR that the UK's blanket ban on voting by convicted serving prisoners violates the European Convention on Human Rights (ECHR). There has also been popular and political criticism of domestic judges applying the HRA. This was reflected in Theresa May's speech to the Conservative Party Conference in 2011, when she was Home Secretary, in which she said:

> We all know the stories about the Human Rights Act. The violent drug dealer who cannot be sent home because his daughter – for whom he pays no maintenance – lives here. The robber who cannot be removed because he has a girlfriend. The illegal immigrant who cannot be deported because – and I am not making this up – he had a pet cat.[3]

With the UK set to withdraw from the EU, the next major battle in the war to recapture sovereignty looks set to be over the repeal of the HRA. The present government was originally elected on a manifesto commitment to 'scrap the Human Rights Act and introduce a British Bill of Rights.'[4] The 2015 Conservative Party manifesto promised to 'break the formal link between British courts and the European Court of Human Rights' and ensure that the new British Bill of Rights would require an originalist interpretation of Convention rights, consistent with the intention of the signatories to the European Convention on Human Rights in 1950, rather than the 'living instrument' doctrine.[5] The specifics of the British Bill of Rights were somewhat unclear from the manifesto, but clearer in a pre-election policy document which included a commitment that the 'new law will be limited to cases that involve criminal law and the liberty of an individual, the right to property and

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764; and A. Donald, J. Gordon, and P. Leach, *The UK and the European Court of Human Rights* (Manchester: Equality and Human Rights Commission, 2012) 3.3.

[2] On 30 October 2017 YouGov published a poll which asked 'Currently convicted prisoners in the UK are not allowed to vote in elections. The European Court of Human Rights has ruled that it is illegal for Britain to ban all prisoners from voting. Which of the following best reflects your view?'. The responses were: 'All prisoners should be allowed to vote at elections' (14%), 'Prisoners serving sentences of fewer than 4 years should be allowed to vote' (8%), 'Prisoners serving sentences of less than 1 year should be allowed to vote' (12%), 'No prisoners should be allowed to vote at elections' (57%), 'Don't know' (9%). An earlier February 2011 YouGov poll asked 'Currently Britain is a signatory of the European Convention of Human Rights, meaning people can go to court if they feel their human rights have been abused and, ultimately, can take their case to the European Court of Human Rights. Do you think it is right or wrong that the European Court of Human Rights should be able to make rulings on things the British Parliament or British courts have decided?'. The responses were: 'Right - being able to appeal to a court abroad is a vital protection against the British government abusing people's rights' (25%), 'Wrong - the British Parliament and Supreme Court should have the final say, rather than a foreign court' (63%), 'Not sure' (13%).

[3] T. May, 'Speech of Home Secretary' (Conservative Party Conference, 4 October 2011) http://www.politics.co.uk/comment-analysis/2011/10/04/theresa-may-speech-in-full. The statement about the cat caused particular controversy. The presence of the cat was taken into account by the first judge but reversed on appeal: J. Fisher QC, *Rescuing Human Rights* (London: The Henry Jackson Society, 2012) 38-39.

[4] The Conservative Party Manifesto 2015 (2015) 58, 60.

[5] ibid 60, 73.

similar serious matters.'[6] The manifesto also specifically contemplated restricting the rights of 'terrorists and other serious foreign criminals.'[7] Following the UK's decision to leave the EU in the 2016 referendum, the implementation of withdrawal from the ECHR has been delayed. The 2017 manifesto committed not to 'repeal or replace the Human Rights Act while the process of Brexit is underway but we will consider our human rights legal framework when the process of leaving the EU concludes.'[8] But the political will in sections of the Conservative Party to repeal the HRA remains: during the EU referendum Theresa May argued that it was the ECHR not the EU that the UK should withdraw from.[9] The Government seems to have backtracked on this somewhat, as the July 2018 Brexit white paper states that the 'UK is committed to membership of the European Convention on Human Rights.'[10] However, due to the highly volatile political situation in the UK withdrawal remains a possibility.

The HRA has also been subject to academic critique. Many of the rights in the ECHR are 'qualified', meaning that they can be restricted in certain specified circumstances. For example, the right to respect for private and family life in article 8(1) is qualified in article 8(2) so that

> [t]here shall be no interference by a public authority with the exercise of this right except such as is in accordance with the law and is necessary in a democratic society in the interests of national security, public safety or the economic well-being of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights and freedoms of others.

Finnis has argued that 'in maturely self-determined polities with a discursively deliberative legislature, it is not wise to require or permit judges to exercise the essentially non-judicial responsibility of overriding or even of condemning legislation for its not being "necessary", or for its "disproportionality", relative to open-ended rights and the needs of a democratic society.' He argues that such judicial assessments of proportionality are subject to 'so many, vague, diverse if not conflicting [criteria], and so open-ended to views about the future that the judge can only be exercising a parallel or overriding legislative, and not judicial power.' He suggests that 'the institutional design of serious legislatures is broadly superior to the institutional design and procedures of even sophisticated appellate courts' and

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[6] The Conservative Party, *Protecting Human Rights in the UK* (2014) 7.

[7] The Conservative Party Manifesto 2015 n 4 above, 73.

[8] *The Conservative Party Manifesto 2017* (2017) 37.

[9] T. May, 'Home Secretary's speech on the UK, EU and our place in the world' (Theresa May addresses audience at the Institute of Mechanical Engineers in central London, 25 April 2016) https://www.gov.uk/government/speeches/home-secretarys-speech-on-the-uk-eu-and-our-place-in-the-world.

[10] HM Government, *The future relationship between the United Kingdom and the European Union* (White Paper, Cm 9593, 2018) 52.

thereby more institutionally competent to perform such a function.[11] In addition to the indeterminacy occasioned by the qualified rights in Finnis' critique, there is also indeterminacy caused by the interpretative obligation under section 3 HRA, which requires that '[s]o far as it is possible to do so, primary legislation and subordinate legislation must be read and given effect in a way which is compatible with the Convention rights.' Gearty concedes that uncertainty can flow from this interpretative obligation, commenting:

> Much depends on the level of abstraction at which judges tend to home in on [legislative] purpose—the more broadly it is defined, the easier it will be for section 3 to do its reforming work, the more narrowly, the more difficult as the conflict with purpose will be more likely to be exposed.[12]

In the UKHL/UKSC some judges appear to systematically differ in their willingness to adopt such a broad interpretation. In Dickson's survey of 'close calls' (cases in which there were at least two judges adopting a different position from that of the majority) between 2001 and 2009[13] he looks in detail at the judicial reasoning in the fields of criminal law, human rights law and tort law. In the criminal law and human rights close calls Dickson finds there to be a dichotomy between judges who adopt a restrained/literal approach (preferring changes in the law to be brought about by Parliament) and those who favour judicial activism.[14] In criminal cases Dickson specifically identifies 'Lords Walker, Neuberger and especially Rodger and Carswell' as adopting the restrained approach. In human rights cases Dickson notes that 'Lords Rodger and Carswell maintained their conservative position' and contrasts this to Lord Steyn and Lady Hale who 'staunchly upheld human rights in the three close calls which they appeared in'.[15]

The indeterminacy associated with Convention rights has also been subject to recent judicial critique. Lord Sumption has criticised Strasbourg jurisprudence as 'subjective, unpredictable and unclear' and so at odds with the rule of law,[16] noting how the 'living instrument' doctrine allows the ECtHR 'to make new law in respects which are not foreshadowed by the language of the convention and which Parliament would not necessarily have anticipated when it passed the [HRA].'[17]

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[11] J. Finnis, 'Judicial Power: Past, Present and Future' (London: Judicial Power Project, 21 October 2015) https://judicialpowerproject.org.uk/john-finnis-judicial-power-past-present-and-future/.

[12] C. Gearty, *On Fantasy Island: Britain, Europe, and Human Rights* (Oxford: OUP, 2016)

[13] B. Dickson, 'Close Calls in the House of Lords' in J. Lee (ed), *From House of Lords to Supreme Court: Judges, Jurists and the Process of Judging* (Oxford: Hart, 2011).

[14] ibid 290.

[15] ibid 295.

[16] J. Sumption, 'The Limits of Law' in N. Barber, R. Ekins, and P. Yowell (eds), *Lord Sumption and the Limits of the Law* (Oxford: Hart, 2016) 21.

[17] ibid 23.

However, the fact that the HRA results in indeterminate law is not necessarily a bad thing. Any chilling effect created by indeterminate laws might be regarded as positive.[18] Gearty argues that the Human Rights Act has been 'particularly valuable for those whose grip on society is fragile, whose hold on their lives is precarious, whose disadvantage has robbed them of means of adequate engagement with adversity.'[19] Such vulnerable individuals are likely to lack resources to litigate. It is therefore arguable that indeterminate rights have a desirable 'private ordering value'[20] that deters potential rights' violators from approaching the legal boundaries. But such private ordering is unlikely to be present where either the putative 'rights violator' is risk seeking (so likely to take a punt on litigation) or where the putative 'rights violator' is willing to exploit the lack of the putative right holder's resources to litigate. Further, by way of corollary, the chilling effect caused by such private ordering might be regarded as 'gold-plating' rights and so part of the 'mission creep'[21] denounced in the Conservative manifesto.

The indeterminacy in human rights law can also be considered part of its express design, as terms like 'democracy' (and 'necessary in a democratic society') are 'essentially contestable terms',[22] so that (i) the dispute about the meaning of the concept in question goes to the heart of the matter; (ii) the contestedness is part of the very meaning of the concept in question, so someone who does not realise that fact has not understood the way the term is used; and (iii) the disagreement is in some sense indispensable to the use of the term. Adapting such an approach, human rights are not inchoate but rather 'avowedly indeterminate'[23] laws that call for a moral reading by judges of the relevant right in which they 'engage in a structured practical deliberation along the subset of dimension of evaluation that the [provision] indicates'. [24] This of course contrasts with the originalist interpretation that is advocated in the US[25] and in the Conservative manifesto. This plays into a broader debate concerning rules and standards that permeates the law outside human rights.[26] In a recent UKSC decision, moving one area of UK law from a rules to a standards based test, Lord Toulson commented that he was unaware that uncertainty had been a serious problem for jurisdictions that adopted a standards

[18] J. Waldron, 'Vagueness in Law and Language: Some Philosophical Issues' (1994) 82(3) *California Law Review* 509, 535-536; J. Waldron, 'Vagueness and the Guidance of Action' in A. Marmor and S. Soames (eds), *Philosophical Foundations of Language in the Law* (Oxford: OUP, 2011) 75-79 and S. Soames, 'What Vagueness and Inconsistency Tell us about Interpretation' in ibid, 41.

[19] Gearty n 12 above, 113.

[20] T. Endicott, 'The Value of Vagueness' in Marmor and Soames n 18 above, 27.

[21] The Conservative Party Manifesto 2015 n 4 above, 73.

[22] Waldron, 'Vagueness in Law and Language: Some Philosophical Issues' n 18 above, 529-530 from W. Gallie, 'Essentially Contested Concepts' (1955) 56 *Proceedings of the Aristotelian Society* 167.

[23] H. Hart Jr, A. Sacks, and W. Eskridge Jr, *The Legal Process: Basic Problems in the Making and Application of Law* (Westbury, New York: Foundation Press, 1994) 139.

[24] Waldron, 'Vagueness and the Guidance of Action' n 18 above, 74-75.

[25] A. Scalia, *A Matter of Interpretation* (Princeton: Princeton University Press, 1997) 37-41.

[26] eg L. Kaplow, 'Rules versus Standards: An Economic Analysis' (1992) 42(3) *Duke Law Journal* 557 and D. Weisbach, 'Formalism in the Tax Law' (1999) 66(3) *The University of Chicago Law Review* 860.

based approach.[27] This paper therefore provides empirical evidence of the impact of standards on uncertainty to contribute to this wider debate.

In this broader debate, some scholars have argued that the indeterminacy of standards can be mitigated through legal opinions, clearances and technical advice from regulators:[28] but in the human rights context this is unlikely to apply. Also, in the broader debate the 'formalism' of rules has been associated with the ideology of market liberalism, due to its emphasis on certainty and predictability.[29] Similarly the 'realism' of the standards-based approach has been associated with consumer-welfarism, which in a result-orientated approach feeds in reasonableness to decision making at the cost of predictability.[30]

The indeterminacy of such essentially contestable terms has been demonstrated by empirical studies of the US Supreme Court. These have shown there to be higher rates of dissent in civil liberties cases than in economic cases.[31] Epstein, Landes and Posner suggest this is so because

> disagreements over technical points of law, where the judges are reasoning from shared premises and there is therefore apt to be a right and wrong answer, are less likely to result in dissents than ideological disagreements are; the latter are more difficult to resolve by discussion and compromise, being rooted more in values, experience, personal-identity characteristics, and temperament than in beliefs based on verifiable facts and, for most judges, being more important.[32]

Similarly studies of the Supreme Court of Canada have found the highest rates of dissent to be in cases which raise Charter of Rights issues[33] and in a later study to be on civil liberties issues.[34] Also a study of the Supreme Court of Norway found the odds of dissent to increase by 79 per cent where a case involves any ECHR issue.[35]

However previous empirical research in the context of the UK and ECtHR does not necessarily support the idea that legal reasoning based on Convention rights is more indeterminate. Aletras et al have shown machine learning techniques to be able to

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[27] *Patel* v *Mirza* [2016] UKSC 42, [2017] AC 467. For a further discussion of how open textured concepts may both enable and constrain the exercise of discretion, see T. Arvind and L. Stirton, 'Legal Ideology, Legal Doctrine and the UK's Top Judges' [2016] PL 418 and the works cited therein.

[28] D. McBarnet and C. Whelan, 'The Elusive Spirit of the Law: Formalism and the Struggle for Legal Control' (1991) 54(6) MLR 848.

[29] J. Adams and R. Brownsword, 'The Ideologies of Contract' (1987) 7 *Legal Studies* 205, 221.

[30] ibid 212-213; F. Schauer, 'Formalism' (1987) 97 *Yale Law Journal* 509, 542-543.

[31] L. Epstein, W. Landes, and R. Posner, *The Behavior of Federal Judges* (Cambridge, Mass: Harvard University Press, 2013) 259.

[32] ibid 257-258.

[33] P. McCormick, 'With Respect ... Levels of Disagreement on the Lamer Court 1990-2000' (2003) 48 *McGill Law Journal* 89.

[34] D. Songer, J. Szmer, and S. Johnson, 'Explaining Dissent on the Supreme Court of Canada' (2011) 44(2) *Canadian Journal of Political Science* 389, 402.

[35] H. Bentsen, 'Court Leadership, Agenda Transformation, and Judicial Dissent: A European Case of a "Mysterious Demise of Consensual Norms"' (2018) 6(1) *Journal of Law and Courts* 189, 201, 207.

predict the outcome of ECtHR cases with 79 per cent accuracy.[36] The main previous quantitative study of the correlation between human rights discourse and dissent in the UKHL is by Poole and Shah. Poole and Shah's research purports to show that human rights cases are not subject to 'above-normal levels of disagreement'.[37] They purport to show this by a comparison of the types of decision (unanimous, concurrence and majority over dissent) in cases that mention human rights before and after the HRA came into force in 2000.

However, their analysis has certain limitations. Not only are there very few such cases prior to 2000,[38] but also those few cases will be qualitatively different to those that have some mention of human rights in and after 2000. Additionally such a comparison ignores how changes in the membership and leadership of the Law Lords and Supreme Court Justices have contributed to changes in attitudes towards the value of dissent and unanimity during this period: so any change might not be attributable to the Human Rights Act coming into force.[39] Their study is also disadvantaged by limitations of measurement.[40] Lastly, that study is now somewhat dated, being based only on the UKHL and so now almost ten years old.[41]

A

RESEARCH QUESTIONS

The first research question asks whether the extent of discussion of Convention rights in a judgment is associated with the area of law (such as family law or tax law) in the UKSC/UKHL. In addition to being of general intrinsic interest in assessing the impact of the HRA, this is of potential relevance given the stated aspiration of the Conservative Party to restrict the new British Bill of Rights to criminal law, the right to property and other 'serious matters'. This question is considered in the section below entitled 'How does Convention rights content vary across areas of law in the UKHL/UKSC?'.

The other two research questions focus on issues associated with indeterminacy and Convention rights. The second research question asks if some judges are more likely than others to engage in Convention rights discourse, and if so, whether such differences are attributable to the judge rather than merely being the result of some

[36] N. Aletras et al, 'Predicting Judicial Decisions of the European Court of Human Rights: A Natural Language Processing Perspective' (2016) 2 *PeerJ Computer Science* e93.

[37] T. Poole and S. Shah, 'The Law Lords and Human Rights' (2011) 74(1) MLR 79, 93.

[38] ibid 90.

[39] A. Paterson, *Final Judgment: The Last Law Lords and the Supreme Court* (Oxford: Hart, 2013) 99-109. For discussion of how changes in judicial leadership in the Canadian Supreme Court and US Supreme Court have altered the dissent rates see Songer, Szmer, and Johnson n 34 above, 398; T. Walker, L. Epstein, and W. Dixon, 'On the Mysterious Demise of Consensual Norms in the United States Supreme Court' (1988) 50(2) *The Journal of Politics* 361; and M. Hendershot et al, 'Dissensual Decision Making: Revisiting the Demise of Consensual Norms within the US Supreme Court' (2013) 66(2) *Political Research Quarterly* 467.

[40] Specifically treating human rights content as a dichotomous variable and measuring disagreement by dissent as to the order, rather than focussing on disagreements on reasoning. Both issues are discussed further in the 'Data and measurement' section of this paper.

[41] For further discussion of the limitations of Poole and Shah see Arvind and Stirton n 27 above, fn 56.

judges being more likely to give judgments in cases that objectively raise Convention rights issues. This question is considered in the section below entitled 'Are some judges more likely than others to engage in Convention rights discourse?'

The final research question asks if judicial disagreement is more common in cases with a greater proportion of Convention rights discourse. This question is considered in the section below entitled 'Is judicial disagreement more common in cases with higher levels of Convention rights discourse?'

A

DATA AND MEASUREMENT

The dataset used in this study (including the sources of the data) is discussed in the subsection immediately below. The subsequent two subsections discuss the operationalisation and measurement[42] of the concepts of Convention rights content and of disagreement. In doing so these subsections also present some summary statistics in relation to these measures.

B

Dataset

This paper analyses the Convention rights content of the 1,343 decisions of the UKHL and UKSC handed down between January 1997 and December 2017. As a benchmark this paper also analyses the Convention rights content of those decisions which were appealed to the UKHL and UKSC during that period, e.g. the decisions of the Court of Appeal of England & Wales, Court of Session and Court of Appeal of Northern Ireland.

The text of these UKHL and UKSC decisions was taken from the official websites[43] and where the decisions were in pdf format they were converted to .txt format using pdftotext.[44] The texts of the decisions appealed against were generally obtained from BAILII,[45] who most kindly provided .html versions. The text of a few decisions that were appealed against where there was no neutral citation (and so unavailable on BAILII, generally older cases) was taken from official transcripts published on Westlaw and LexisNexis. The area of law of the UKHL and UKSC decisions was taken from the Westlaw case summary of the case, which classifies cases according to the Westlaw Legal Taxonomy.[46] Although cases may sometimes not fit neatly into discrete categories,[47] this method provides an objective and professionally coded variable.

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[42] L. Epstein and A. Martin, 'Quantitative Approaches to Empirical Legal Research' in P. Cane and H. Kritzer, *The Oxford Handbook of Empirical Legal Research* (Oxford: OUP, 2012) 908.

[43] House of Lords Judgments: archive, https://www.publications.parliament.uk/pa/ld/ldjudgmt.htm and The Supreme Court: Decided cases https://www.supremecourt.uk/decided-cases/index.html.

[44] XpdfReader, http://www.foolabs.com/xpdf/.

[45] British and Irish Legal Information Institute, https://www.bailii.org/.

[46] M. Scott and N. Smith, 'Legal Taxonomy from Sweet & Maxwell' (2010) 10 *Legal Information Management* 217.

[47] Paterson has observed how 'Any case classification contains room for quibbles ... I can do no better than quote from Louis Blom-Cooper and G Drewry, Final Appeal (Oxford, Clarendon Press, 1972) at 244. "Any

B

Measuring Convention rights content

This paper uses an automated dictionary-based classification method (DBM) which looks at the percentage of paragraphs of a judgment that contain keywords (which may be words or phrases) indicative of a Convention rights discussion.
As explained in this subsection the method minimises type I and type II errors by dividing keywords into 'certain' and 'potential' categories.

The keywords, listed in the Appendix, are divided between two categories, (i) certain words and (ii) potential words. The certain words are words that are almost always likely to denote a discussion of Convention rights. Such words are unlikely to cause a type I error (i.e. detecting an effect that is not present). Thus any paragraph that contains 'Convention for the Protection of Human Rights and Fundamental Freedoms' is almost always going to contain a discussion of Convention rights. However, limiting the analysis to such certain words is likely to make it vulnerable to type II errors (i.e. failing to detect an effect that is present), that is to say some paragraphs may contain discussions of Convention rights without containing any certain words.

To mitigate such type II errors the DBM uses a list of potential words. They would not always be indicative of Convention rights discussion, but it is expected that in the bulk of cases *where there was proximate evidence of Convention rights discussion* they would be. So, for example, in a case with significant Convention rights discussion, references to 'article' would be likely to denote Convention rights discussion. Conversely, in cases where there was otherwise low Convention rights content such references would be unlikely to denote Convention rights content. By way of illustration, *Canada Trust Co* v *Stolzenberg (No 2)*[48] contains frequent references to 'Article' but is not a Convention rights case: it discusses the Lugano Convention. Thus, 58 per cent of paragraphs in this decision contain potential words but none contain certain words.

The unit of analysis is the paragraph, in that the DBM tests if a paragraph contains a keyword. In the DBM paragraph is a 'legal' paragraph (i.e. all text in any numbered paragraph combining all text until the next numbered paragraph and including headings above that paragraph). In the case of (generally older) judgments that were not comprised of numbered paragraphs, a programme was written to automatically insert such numbering, ensuring quotes and headings were not counted as numbered paragraphs despite starting on a line break. An alternative approach would have been to apply the method to 'natural paragraphs' of text, i.e. a section of text ending with a line break, or even to sentences.

This paper thus creates a continuous variable (ranging from 0 to 100) to measure Convention rights content. This contrasts with earlier studies of human rights litigation in the UKHL and UKSC, which divided cases between human rights and

subject-classification we construct is essentially arbitrary, and the assignment of marginal cases to particular categories is extremely difficult".': Paterson n 39 above, 17.

[48] *Canada Trust Co* v *Stolzenberg (No .2)* [2002] 1 AC 1.

other categories.[49] However such discrete categories do not seem appropriate as the Convention rights content of some cases is far more pronounced than others. This new measure therefore captures the more continuous nature of this variable. Also earlier research focused on classifying entire cases, but this method is easily extendable to individual judgments, so it can be used to compare the Convention rights content of different judges' speeches on the same case. Being automated, the method is also able to cope with large amounts of data and could in future be used for a large scale study of, say, the High Court or Court of Appeal.

The question arises in what circumstances potential words are to be counted. The method used in this paper is to only count potential words (i) if they are in a paragraph immediately following certain words; (ii) if they are in a paragraph immediately following a paragraph that counts under the rule in (i); (iii) if they are in a paragraph immediately following a paragraph that counts under the rule in (ii); (iv) and so on... Because of the iterative nature of this rule it is referred to in this paper as the 'iterative method.' By way of example regarding its operation, if paragraph 4 contains certain words and paragraphs 5 to 9 contain potential words (but no certain words) all 6 paragraphs would be counted. But if paragraph 4 did not contain any certain words none of them would be counted. The rationale for this is that if potential words are used in a Convention rights context they are likely to be proximate to or linked to paragraphs containing Convention rights discourse.

A more detailed discussion of the reliability and validity of the DBM is to be found in the Appendix.

The changing DBM scores over time are summarised in Figure 1. It can be seen that the general trend is for Convention rights content to rise until around 2006, when it plateaus and then gradually declines. This decline may perhaps be attributable to the Supreme Court encouraging submissions based on protections for human rights under the common law or statute, rather than the ECHR.[50] The uppermost line shows the trend for cases with some Convention rights content, i.e. a DBM score of > 0. It can be seen that between 2005 and 2014 the trend is that a majority of cases had a DBM score > 0. The bottommost line shows the trend for cases with high Convention rights content, ie a DBM score of > 30. It can be seen that between 2002 and 2018 the trend suggests that over 15 per cent of cases had a DBM score of > 30. The intermediate lines show the trends for cases with DBM scores in excess of 5, 10, 15, 20 and 25 per cent.

[49] Poole and Shah n 37 above; S. Shah and T. Poole, 'The Impact of the Human Rights Act on the House of Lords' [2009] PL 347; D. Feldman, 'Human Rights' in L. Blom-Cooper, G. Drewry, and B. Dickson (eds), *The Judicial House of Lords: 1870-2009* (Oxford: OUP, 2009) 546, Dickson n 13 above, 290.

[50] S. Stephenson, 'The Supreme Court's renewed interest in autochthonous constitutionalism' [2015] PL 394, 399-401.

B

Measuring disagreement

This article uses two measures of disagreement. The first measure is if dissent is recorded in any part of the holding of the reported case. Where available *The Law Reports* are used for this purpose; in cases where the decision was not reported there the *Weekly Law Reports*, *All England Law Reports*, *Session Cases* and *Scots Law Times* reports were consulted in that order. This provides an objective coding by reporters familiar with the case of any 'active disagreement by one or more members from the proposition to which the holding relates'.[51] In the very small number of instances where the decision was not reported a coding was provided by the author reviewing the judgment: for most such cases coding was a very easy decision as there was a single reasoned decision.

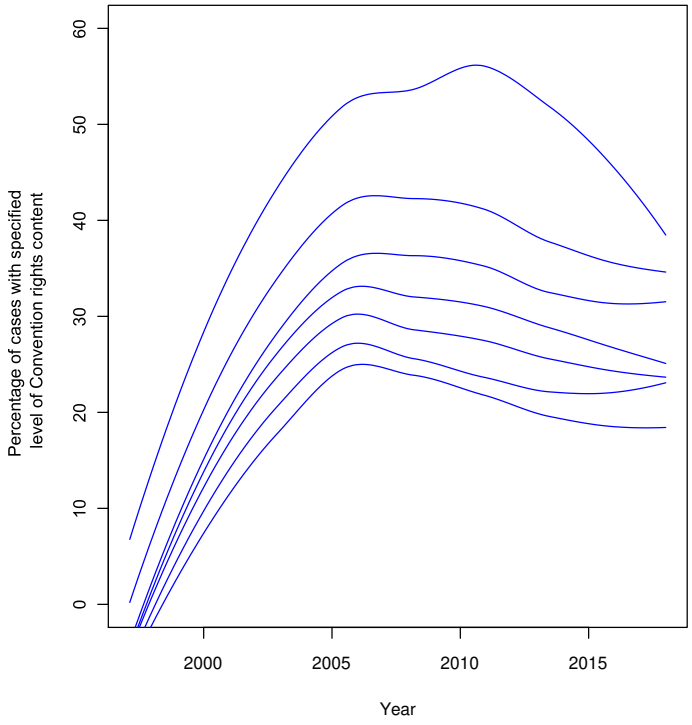

Figure 1: Graph showing changes in the expected DBM scores in UKHL/UKSC cases over the period 1997–2017. The uppermost line shows the expected percentage of cases with any Convention rights content (ie a DBM score > 0). The lower lines show (in declining order) the expected percentage of cases with DBM scores of in excess of 5, 10, 15, 20, 25 and 30 per cent.

[51] Email from editor of *The Law Reports* and *The Weekly Law Reports* (20 February 2017).

The second measure is a count of the total number of judges who are recorded as dissenting in any part of the holding of the reported case. Theoretically this number can be up-to the total number of judges on the panel, as it is possible for some judges to dissent on one issue in the case, and other judges to dissent on other issues.

Figure 2 shows the distribution of dissents, and cases with two or more dissents, over the period of the study. The relevant Senior Law Lord/President of the UKSC is shown on the graph, since studies in the US and Canada have shown this to have had a major impact on dissent.[52] But with regard to dissent in the UKHL/UKSC there appears to have been as much variation within such periods as between them.

Both of these measures are based on disagreement concerning the reasoning of the judges, rather than measures of disagreement concerning the outcome or order of the court. This is common in much scholarship concerning the UKHL/UKSC,[53] although distinct from approaches adopted in scholarship in the United States and Australia.[54] Whilst dissent based on the order of the court is easier to code, in the context of a court of final appeal emphasis on dissent based on the reasoning is more logical. In a lower court (eg the Court of Session), dissent with regard to the order may perhaps make it more likely that permission be granted for a further appeal. Indeed, in respect of the Court of Session whether there is a difference of opinion among the judges is part of the legal test for whether an appeal can be made.[55] But in the case of a decision of a final court there is no appeal, so dissent as to order has no consequence for the parties to that case. Due to the doctrine of precedent and also because the UKSC only hears 'cases of general public importance' which ought to be considered by the Supreme Court,[56] the outcome of such a case will have very important consequences for future cases. In such cases where there is a dissent it is 'an appeal to the brooding spirit of the law, to the intelligence of a future day, when a later decision may possibly correct the error into which the dissenting judge believes the court to have been betrayed.'[57] Similarly, by way of corollary, objections to dissenting opinions include the fact that they cause the law to be unsettled and so lack a 'guidance value'[58] and that they can undermine the authority of a judgment.[59] All these considerations involve disagreement about

[52] Songer, Szmer, and Johnson n 34 above; Walker, Epstein, and Dixon n 39 above; Hendershot and others n 39 above.

[53] eg Paterson n 39 above, 12; and Dickson n 13 above; but cf Poole and Shah n 37 above, 86.

[54] eg A. Lynch, 'Dissent: Towards a Methodology for Measuring Judicial Disagreement in the High Court of Australia' (2002) 24 *Sydney Law Review* 470; 'The Supreme Court, 1967 Term' (1968) 82 *Harvard Law Review* 301; and 'The Supreme Court, 1969 Term' (1970) 84 *Harvard Law Review* 254.

[55] Court of Session Act 1988 (CSA 1988) s 40.

[56] Practice direction 1, The Supreme Court of the United Kingdom.

[57] C. Hughes, *The Supreme Court of the United States: Its Foundation, Methods and Achievements: An Interpretation* (New York: George Blumenthal Foundation, 1928) 68.

[58] This term comes from Endicott n 20 above, 15.

[59] R. Bader Ginsburg, 'The Role of Dissenting Opinions' (2010) 95 Minn L Rev 1, 7; A. Scalia, 'Dissents' (1998) 13(1) *OAH Magazine of History* 18, 18-20.

the reasoning of judgments, irrespective of whether there is a disagreement as to the order.

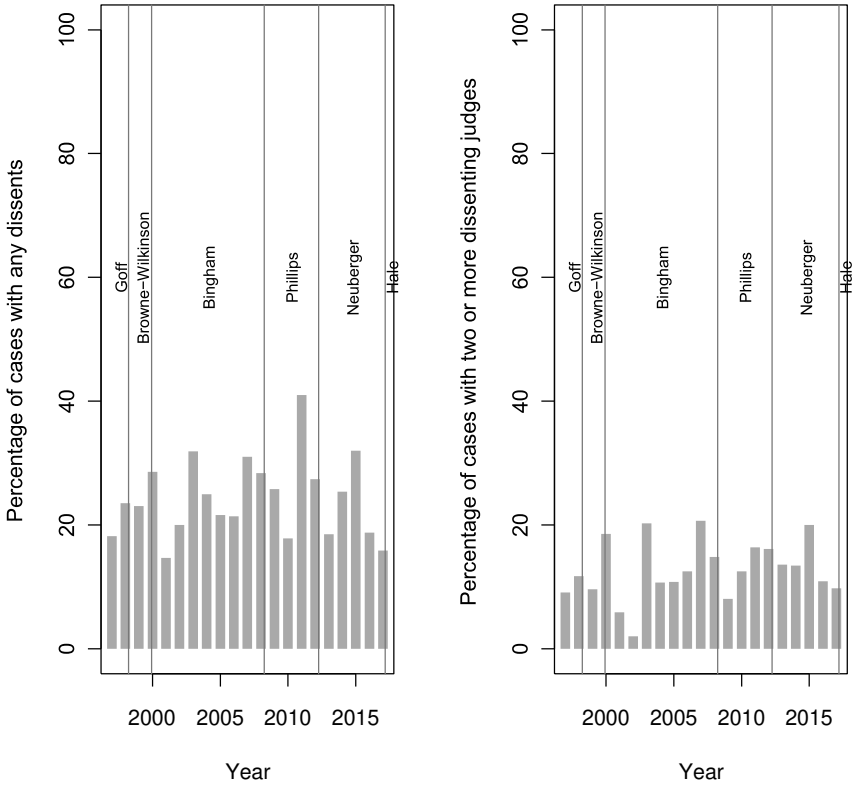

Figure 2: Graphs showing dissents (left) and distribution cases with two or more dissenting judges (right) by year in the period 1997 to 2017.

A

HOW DOES CONVENTION RIGHTS CONTENT VARY ACROSS AREAS OF LAW IN THE UKHL/UKSC?

As noted cases were classified as belonging to an area of law based on Westlaw's legal taxonomy. Table 1 details the DBM score for cases, broken down by area of law. Only areas of law where there are at least 10 judgments are listed, with the remaining areas combined into a single 'other' category. Where the median value is in excess of 0 this indicates areas of law where the majority of cases have at least some Convention rights content. It can be seen that these are generally within crime and associated areas (penology and criminology; sentencing; police; extradition; criminal procedure; criminal evidence; and criminal law). These categories between them account for 239 judgments. Similarly areas of law that could together be regarded as public law (administration of justice; administrative law; and

constitutional law), which together account for 58 judgments, all have median DBM scores in excess of 0. Other areas of law that have median DBM scores in excess of 0 are human rights, immigration, mental health, education and health.

The area of law that has both the highest mean and median DBM score is 'human rights', which supports the proposition that the DBM is indeed measuring Convention rights content. An idea of the range of legal topics of the cases categorised as 'human rights' under the Westlaw Taxonomy may be gleaned from the first of the 'other related subjects' that they are classified under. In 7 of the 37 cases categorised as human rights there is no such other related subject listed. Among the 30 cases with another related subject listed the breakdown is criminal procedure (5), administration of justice (3), civil procedure (3), criminal law (3), police (3), damages (2), international law (2), armed forces (1), family law (1), hospitality and leisure (1), immigration (1), landlord and tenant (1), legislation (1), local government (1), media and entertainment (1) and mental health (1).

Attentive readers will note from Table 1 that there are two decisions that Westlaw classified as human rights, but which have a DBM score of 0, and so will wonder whether this indicates a flaw in the DBM method. The first case is *Hallam* v *Avery*[60]. The case concerned the application of the Race Relations Act 1976 to an instance where Cheltenham Borough Council denied to the appellants, because they were gypsies, the use of 'the Pump Rooms' on the same terms as would have been available to others who were not gypsies. The plaintiffs sought damages from the police for 'knowingly aiding' the council to discriminate against them contrary to section 33(1) of the Act. The case was decided straightforwardly on the basis of statutory construction and contained no discussions of 'rights' of any kind. Accordingly, its classification as 'human rights' by Westlaw seems to be an instance of misapplication of their taxonomy and does not undermine the DBM method. In some broad sense, perhaps, this might be thought to have had the potential to engage human rights as this is clearly a case that touches on human dignity, but the judges did not engage with that discourse in their decision.

		DBM score		
Area of law	Freq	mean	median	some
Human rights	37	55.3	58.3	94.6
Penology and criminology	26	39.4	34.7	92.3
Sentencing	19	29.2	29.2	73.7
Immigration	87	31.1	28.8	92.0
Police	14	27.1	26.4	92.9
Extradition	32	20.5	15.9	75.0
Mental health	17	28.2	15.0	88.2
Education	12	23.5	12.4	75.0

[60] *Hallam* v *Avery* [2001] UKHL 15, [2001] 1 WLR 655.

Administration of justice	27	19.1	10.2	74.1
Criminal procedure	69	18.0	7.0	71.0
Criminal evidence	30	18.3	6.7	56.7
Administrative law	19	16.6	4.8	68.4
Constitutional law	12	10.7	2.4	91.7
Criminal law	49	8.8	1.4	53.1
Health	10	10.5	0.8	50.0
Social security	28	15.3	0.0	46.4
Social welfare	12	10.6	0.0	41.7
Landlord and tenant	47	9.9	0.0	34.0
Family law	64	8.0	0.0	46.9
Civil procedure	74	8.0	0.0	35.1
Housing	19	6.3	0.0	15.8
Employment	75	5.4	0.0	36.0
Consumer law	13	4.5	0.0	7.7
Torts	21	4.5	0.0	47.6
Negligence	36	3.5	0.0	22.2
Planning	28	3.2	0.0	14.3
Tax	49	2.1	0.0	10.2
Banking and finance	13	2.0	0.0	7.7
Intellectual property	26	0.6	0.0	7.7
Real property	27	0.6	0.0	22.2
Damages	15	0.3	0.0	13.3
Conflict of laws	17	0.2	0.0	11.8
Health and safety at work	10	0.2	0.0	10.0
Insolvency	26	0.2	0.0	3.8
Contracts	15	0.2	0.0	13.3
Insurance	19	0.1	0.0	5.3
VAT	31	0.0	0.0	3.2
Shipping	13	0.0	0.0	0.0
Other[61]	205	7.6	0.0	37.1

[61] The other category comprises the following 52 categories which between them contain 205 relevant cases. The number of cases in each category is shown in parentheses. Those categories are: International law (9), Pensions (9), Civil evidence (8), Defamation (8), Environment (8), European Union (8), Local government (8), Personal injury (8), Arbitration (7), Construction law (7), Licensing (7), Nuisance (7), Company law (6), Legal advice and funding (6), Road traffic (5), Agency (4), Armed forces (4), Aviation (4), Competition law (4), Equity (4), Heritable property (4), Media and entertainment (4), Public procurement (4), Succession (4), Customs (3), Financial regulation (3), Government administration (3), Legislation (3), Partnerships (3), Prescription (3), Sale of goods (3), Transport (3), Utilities (3), Accountancy (2), Animals (2), Commercial law (2), Electoral process (2), Energy (2), Fisheries (2), Food (2), International trade (2),

TOTAL	1343	12.0	0.0	44.5

Table 1: Convention rights content measured by the DBM score, broken down by area of law.

The second case was *Kay* v *Commissioner of the Police of the Metropolis*[62] which concerned whether the 'Critical Mass' monthly mass cycle rides in London required prior notification to the police under the Public Order Act 1986. Whilst there was some discussion of rights to protest,[63] this was not in the context of Convention rights. The case again was decided straightforwardly on statutory interpretation: whether the rides could fall within the exemption for 'processions ... commonly or customarily held' despite not having a pre-determined route. This second case illustrates how not all human rights discussion will necessarily contain discussion of Convention rights: some will involve common law rights and international law.

From Table 1 it is also apparent that the areas of law that generally tend to have a low Convention rights content are areas of private law. This might be regarded as a particular consequence of the structure of the HRA which makes it unlawful for *public authorities* to act in a way which is incompatible with a Convention right, unless they are required to do so under primary legislation.[64] However since the courts are a public authority for this purpose[65] and also because, so far as it is possible to do so, the courts are required to give effect to legislation in a way which is compatible with the Convention rights,[66] it is possible (and sometimes is the case) for Convention rights discourse to permeate areas of private law.[67]

A

ARE SOME JUDGES MORE LIKELY THAN OTHERS TO ENGAGE IN CONVENTION RIGHTS DISCOURSE?

This section considers whether some judges are more likely than other judges to engage in Convention rights discourse. A simple way of answering this question would be to compare the average DBM score of judges against each other. Such measures are shown in Table 2. The third and fourth columns show the mean and median DBM scores for each judge in respect of cases where they delivered a speech of or exceeding five paragraphs (the name of the judge being detailed in the first column). The fifth column shows the percentage of such speeches in which the DBM

Professions (2), Rates (2), Restitution (2), Trusts (2), Ecclesiastical law (1), Hospitality and leisure (1), Information technology (1), Reparation (1), Rights in security (1), Science (1) and Telecommunications (1).

[62] *Kay* v *Commissioner of the Police of the Metropolis* [2008] UKHL 69, [2008] 1 WLR 2723.

[63] In paragraphs [24], [55] and [64] of the judgment.

[64] Human Rights Act 1998 (HRA 1998) s 6.

[65] HRA 1998, s 6(3).

[66] HRA 1998, s 3.

[67] For examples of Convention rights in private law see *Campbell* v *MGN Limited* [2005] UKHL 61, [2005] 1 WLR 3394; and *Jameel and others* v *Wall Street Journal Europe Sprl* [2006] UKHL 44, [2007] 1 AC 359; and the discussion in Jane Wright, *Tort Law and Human Rights* (Oxford: Hart, 2nd edn, 2016).

score was in excess of 0, ie the percentage of speeches containing some Convention rights content. It can be seen that the mean score ranges between 26.7 (for Lord Brown) to 2.8 (for Lord Lloyd). Only eight judges have a median DBM score in excess of 0 (Lords Brown, Dyson, Kerr, Bingham, Carswell, Hughes and Phillips and Lady Hale), meaning that only these eight judges have some Convention rights content in the majority of the speeches (exceeding five paragraphs) which they deliver. The number of speeches (exceeding five paragraphs) given by each judge is the first number listed in the second column.[68]

While interesting, such statistics do not however show the *effect* of the judges on the Convention rights content. This is because cases are not randomly assigned to panels of judges, and among panels of judges the decision as to who (if anyone) merely concurs is not randomly taken. Therefore cases that involve factual and legal issues that preclude a Convention rights analysis will not necessarily be evenly distributed between judges. A rough proxy for such 'nil-HRA content' cases is where there is no Convention content both in the UKHL/UKSC judgment and the judgment being appealed. The number of speeches given by judges, exceeding five paragraphs and excluding nil-HRA content cases, is shown in parenthesis in the second column of Table 2.

Accordingly, to discover the *effect* of the judge it is necessary to have some objective benchmark of Convention rights content for a case and to measure the extent that a particular judge's speech departs from that benchmark. This paper uses as such a benchmark the decision being appealed against, eg the Court of Appeal (England & Wales) or Court of Session judgment. This has the advantage of being available for (almost) all cases.[69] A possible disadvantage of using this benchmark is that in some instances permission to appeal to the UKHL/UKSC is given on limited grounds: so the focus of the decision in the court below will necessarily be somewhat different. But whilst that may cause some error in particular instances, it should not cause any systematic bias.

The benchmarked score is calculated using a form of regression analysis, which is then used to predict the DBM score of each judge in an 'average case'[70] in which there is some Convention rights content in the decision being appealed against. The statistical model underlying the calculation of the benchmarked scores is discussed

[68] The other category comprises the following 16 judges who between them gave 75 relevant judgments. The number of relevant judgments delivered by each judge is shown in parenthesis after the judge's name. Those judges are: Lord Jauncey (14), Lord Woolf (11), Lord Nolan (9), Lord Briggs (6), Lord Judge (6), Lord Irvine (5), Lord Mustill (5), Lord Saville (4), Lady Black (3), Lord Gill (3), Lord Griffiths (2), Lord Hamilton (2), Lord Lloyd-Jones (2), Lord Cullen (1), Lord Matthew Clarke (1) and Lord Thomas (1).

[69] The 43 UKHL/UKSC cases where such decisions are not available are mostly older cases, preceding the automatic reporting of Court of Appeal cases on BAILI. They also include more recent cases where there is no appeal below as such, such as *R (on the application of Edwards and another)* v *Environment Agency and others (No 2)* [2013] UKSC 78, [2014] 1 WLR 55 which concerned costs in the Supreme Court.

[70] Specifically, the predictions are based on a case where the DBM score of the decision being appealed against is 21.4.

further in the appendix. The appendix also shows why the differences between the judges is statistically significant.

The benchmarked scores are only reported in respect of judges who gave 15 or more speeches of more than five paragraphs in cases where there was a DBM score for the decision being appealed against.[71]

It will be recalled that Brice Dickson's study of close calls showed Lords Rodger and Carswell to have conservative positions in human rights cases, in contrast to Lord Steyn and Lady Hale who had more progressive positions.[72] From Table 2 it can be seen that these patterns are shown in the benchmarked DBM scores, with Lords Rodger and Carswell in the lower part of the table and Lord Steyn and Lady Hale more towards the top. Similarly he placed Lords Walker and Neuberger as adopting the restrained approach in criminal matters: Lord Neuberger is located towards the bottom of the table, however Lord Walker is located more around the middle. Overall this would seem to validate the benchmarked DBM.

		DBM score			
Judge	Freq	mean	median	some	benchmarked
Lord Browne-Wilkinson	26 (13)	5.4	0.0	26.9	43.0
Lord Mackay	15 (8)	5.7	0.0	33.3	30.3
Lord Cooke	19 (9)	9.8	0.0	31.6	27.9
Lord Hope	353 (219)	17.9	0.0	43.9	27.0
Lord Hutton	77 (50)	16.3	0.0	44.2	26.8
Lord Brown	142 (116)	26.7	16.7	62.0	23.6
Lord Sumption	84 (48)	8.8	0.0	31.0	23.6
Lord Clyde	67 (24)	5.1	0.0	22.4	22.8
Lord Reed	73 (46)	15.5	0.0	43.8	22.4
Lord Steyn	118 (72)	13.4	0.0	39.8	22.4
Lord Dyson	37 (32)	24.7	15.1	64.9	22.3
Lady Hale	245 (189)	22.2	6.3	57.6	21.5
Lord Mance	176 (95)	14.4	0.0	38.1	21.3
Lord Wilson	52 (39)	15.1	0.0	46.2	20.6
Lord Kerr	87 (75)	24.2	5.3	55.2	20.3
Lord Walker	128 (53)	7.8	0.0	25.8	20.2
Lord Bingham	160 (117)	23.4	8.1	60.0	20.0
Lord Nicholls	101 (54)	12.9	0.0	36.6	19.9

[71] This is the reason why there is no benchmarked score listed for Lord Goff.

[72] Dickson n 13 above, 295.

Lord Hobhouse	73 (35)	11.1	0.0	34.2	19.8
Lord Phillips	66 (47)	18.2	0.9	50.0	18.7
Lord Hoffmann	213 (87)	9.6	0.0	24.9	18.3
Lord Carnwath	69 (37)	10.9	0.0	29.0	17.0
Lord Collins	28 (13)	10.3	0.0	25.0	17.0
Lord Rodger	145 (91)	16.2	0.0	43.4	16.2
Lord Hughes	35 (29)	19.3	3.4	62.9	16.1
Lord Carswell	72 (60)	22.3	11.0	55.6	15.8
Lord Slynn	75 (37)	7.5	0.0	29.3	15.7
Lord Millett	69 (26)	7.1	0.0	20.3	15.5
Lord Scott	136 (74)	12.0	0.0	30.1	15.4
Lord Neuberger	154 (77)	9.0	0.0	33.8	12.8
Lord Clarke	72 (33)	9.0	0.0	26.4	12.4
Lord Hodge	36 (7)	8.2	0.0	16.7	11.4
Lord Toulson	44 (26)	11.0	0.0	40.9	11.0
Lord Lloyd	29 (13)	2.8	0.0	27.6	10.5
Lord Goff	17 (11)	5.6	0.0	17.6	
Judgment of the Court	25 (16)	9.7	0.0	48.0	19.2
Other[65]	75	9.2	0.0	28.0	Other
Total	3393	14.7	0.0	40.2	TOTAL

Table 2: Convention rights content of speeches of five or more paragraphs measured by the DBM score and benchmarked DBM score, broken down by judge.

Similarly, Poole and Shah found that in the House of Lords the judges who voted for 'human rights wins' in at least one in three of the cases they heard were Lords Mance, Carswell, Bingham, Steyn and Woolf and Lady Hale.[73] Lord Woolf is not included in Table 2 as he gave less than 20 speeches of five or more paragraphs in the relevant period. Table 2 shows Lords Mance, Bingham and Steyn and lady Hale to be clustered closely together. Again this might be thought to validate the benchmarked DBM. It will be noted however that Lord Carswell is an outlier to that group.

However, it is necessary to be cautious against simply equating levels of Convention rights discourse with attitudes to Convention rights. Whilst it is likely that judges with low benchmarked DBM scores will have conservative attitudes to the application of Convention rights, it does not follow that high levels of Convention rights discourse are necessarily equated to a progressive attitude to Convention

[73] Poole and Shah n 37 above, 98-99.

rights. One strategy for conservative judges would be to simply ignore Convention rights arguments: these judges would have a low DBM score. Other conservative judges might choose to tackle head-on Convention rights arguments and would therefore have a high DBM score. This seems to be the approach of Lord Sumption, who is well-known for his scepticism towards Convention rights (especially as propounded by the Strasbourg court).[74]

A

IS JUDICIAL DISAGREEMENT MORE COMMON IN CASES WITH HIGHER LEVELS OF CONVENTION RIGHTS DISCOURSE?

This section considers whether judicial disagreement is more common in cases with higher levels of Convention rights discourse. This is first done by simply cross-tabulating the measures of disagreement with levels of human rights content. However, such a simple approach is vulnerable to confounding by not taking account of other variables which may influence disagreement: such as the changing attitudes over time to the value of unanimity. There are also more likely to be dissents on cases with a larger panel size, both due to there being more judges[75] and because cases allocated to larger panels are likely to be more contentious.[76] Accordingly, to better understand whether in similar cases higher levels of human rights discourse are associated with higher levels of disagreement, regression modelling is used to identify the partial effect of Convention rights discourse on disagreement, controlling for the date of the decision, panel size and the area of law.

This section uses as the measure of human rights discourse the DBM score of the decision appealed, rather than the DBM score of the UKHL/UKSC judgment. The rationale for this choice is that it is likely to be a better measure of the effect of human rights discourse on dissent, as it more clearly precedes in time the decision to dissent. The language used in the UKHL/UKSC judgment might be thought in many cases to follow the decision to dissent rather than precede it.

Table 3 shows disagreement (measured by there being any dissent and alternatively there being two or more dissents) cross-tabulated against various levels of Convention rights content, in respect of the period following the coming into force of the HRA. The levels are chosen so that there are an approximately equal number of observations in each level, other than the category with no Convention rights content. The table, and subsequent discussion in this section, only covers the period following the coming into force of the HRA, since it would be expected that the nature of cases that engage any

[74] N. Barber, R. Ekins, and P. Yowell (eds), *Lord Sumption and the Limits of the Law* (Oxford: Hart, 2016).

[75] Just as if I flipped 9 coins I would be likely to have more heads than if I flipped 5 coins. The analogy is not exact since unlike with coins, a judge's decision to dissent is not statistically independent of their brethren on the same case.

[76] For the criteria to be used when considering whether more than five Justices should sit on a panel, see: The Supreme Court: Panel numbers criteria https://www.supremecourt.uk/procedures/panel-numbers-criteria.html.

given level of Convention rights content would be substantively different pre- and post the coming into force of the HRA.

DBM score	Freq	Any dissent
0	574	129 (22%)
0<DBA≤4	108	23 (21%)
4<DBA≤13	106	23 (22%)
13<DBA≤27	107	28 (26%)
27<DBA≤46	107	25 (23%)
46<DBA≤93	107	42 (39%)

Table 3: Disagreement (measured by any dissent) cross-tabulated against Convention rights content (measured by DBM score of the case being appealed), in the period following the coming into force of the Human Rights Act 1998.

Table 3 is somewhat inconclusive as to whether a higher level of Convention rights discourse is indeed associated with higher levels of disagreement. As would be expected if the indeterminacy of Convention rights language causes disagreement, it can be seen that the highest level of dissent is observable in the category of cases with the highest Convention rights content. However, the relationship in Table 3 between dissent and Convention rights content does not appear to be straightforwardly monotonic: so increases in Convention rights content are not straightforwardly associated with increases in disagreement. This non-monotonic relationship may be caused by confounding variables: clearly the indeterminacy that causes dissent does not exclusively arise from Convention rights content. Some areas of law may involve a greater emphasis on standards rather than rules, so may be more indeterminate and thus cases in these areas may result in more disagreement. Similarly, it was noted in the introductory discussion how levels of disagreement have varied over time due to cultural changes in judges' attitudes to the value of unanimity.[77]

No. of	DBM score below				
dissents	mean	median	lower quartile	upper quartile	freq.
0	11	0	0	15	839
1	16	0	0	26	125
2	14	0	0	23	118
3	18	4	0	35	19
4	26	10	2	42	5
5	8	8	8	8	1
6	42	42	42	43	2

[77] Paterson n 39 above, 99-106.

Table 4: Disagreement (measured by count of dissents) cross-tabulated against Convention rights content (measured by DBM score of the case being appealed), in the period following the coming into force of the Human Rights Act 1998.

Similarly, the general trend, shown in Table 4, is for higher levels of Convention rights content to be associated with a greater number of dissents. However there are exceptions to this trend, most notably that cases with two dissents have a slightly lower level of Convention rights content than cases with one dissent.

Regression modelling was used to see if the apparent non-monotonic relationship was due to such confounding variables. To estimate the partial effect of Convention rights discourse on disagreement, controlling for the potentially confounding variables of the area of law[78], panel size and the date of the decision, two models were estimated: one for the count outcome of the number of dissents and one for the binary outcome of whether there was any dissent. In these models the date of the decision was measured in the years since 1 January 2000. These models also included a second-degree polynomial, date-squared, to allow the partial effect of date to increase and then decrease: potentially desirable given the non-monotonic relationships suggested in Figure 1 and Figure 2.

There were some areas of law[79] in respect of which there were no observations in the dataset where there were dissents: likewise there were some areas of law[80] where there were only dissents in the dataset. Observations in both these categories were excluded for the purpose of this regression[81] since they cannot be informative as to the partial effect of Convention rights content on dissent.

As the first model estimated the *number* of dissents, a negative binomial model was fitted, which is appropriate for such count data. In this model all the variables, other than those associated with the area of law, are significant at the 5 per cent significance level. A likelihood ratio test of the model against a restricted model that excludes area of law, suggests that the model which includes it is a better fit at the 10 per cent confidence level.[82]

The coefficients of the fitted model are listed in Table 7 in the Appendix.[83]The estimated coefficient of Convention rights discourse was 0.008, which means holding all other variables constant a one unit increase in the DBM score of the

[78] The reference category is Administration of justice which is therefore structurally 0.

[79] These were: Accountancy; Agency; Aviation; Commercial law; Competition law; Conflict of laws; Customs; Damages; Energy; Fisheries; Food; Hospitality and leisure; Information technology; Intellectual property; International trade; Legal advice and funding; Legislation; Licensing; Partnerships; Public procurement; Reparation; Restitution; Rights in security; Sale of goods; Science; Sentencing; Succession; and Telecommunications.

[80] These were: Animals; Ecclesiastical law; and Rates.

[81] Reducing the number of observations to 998.

[82] $P = 0.0795$.

[83] The Appendix also contains, by way of comparison, certain nested models. A model was also fitted with a cubic function of DBM below, to test if the relationship was non-linear, but a likelihood ratio test showed it to be no better a fit.

decision below is associated with an increase in the expected number of dissents by a factor of 1.008, ie by 0.8 per cent.[84] Similarly, holding all other variables constant, a 50 unit increase in the DBM score of the decision below is associated with an increase in the expected number of dissents by a factor of 1.505.[85]

To gauge the magnitude of the estimated partial effect of DBM score, we can compare the estimated partial effects of date and area of law.[86] The predicted values for the effect of date vary between 0.085 (in 2017) and 0.536 (in 2009), a range of 0.451. Hence the predicted partial effect of the most extreme change in date is to multiply the expected number of dissents by 1.57.[87]

Similarly, with area of law, the estimated coefficients range from -1.509 (for contracts) to 1.481 (for nuisance), with the interquartile range (weighted for frequency) ranging from for -0.109 (for civil procedure) to 0.464 (for social security). Hence the partial effect of area of law is associated with the number of dissents increasing by a factor of 1.774 across the interquartile range.[88]

The second model estimated whether there was any dissent in a judgment. Accordingly a logistic model was used, due to this binary outcome variable. In this model the coefficient for the DBM score in the decision appealed is significant at the 1 per cent level of significance.[89] A likelihood ratio test of the model against a model excluding date (and date-squared) suggests that the model including date is statistically no better fit.[90] Similarly, such a test against a model excluding area of law suggests that the model including area of law is statistically no better fit.[91] However, as there are good theoretical reasons for including both date and area of law, this article discusses both the model which includes them (the full model) and one which excludes them both (the restricted model).

The coefficients of the fitted models are listed in Table 8 in the Appendix.[92] In the full model the estimated coefficient of Convention rights discourse was 0.013, which means that holding all other variables constant a one unit increase in the DBM score of the decision below is associated with the *odds* of a dissent in the case being multiplied by 1.0131,[93] ie increases them by 1.3 per cent. As most people do not

[84] $1.008 = e^{0.008209}$

[85] $1.505 = e^{50*0.008209}$

[86] For date, as it includes the second-degree polynomial ($date^2$) it is necessary to look at predicted values.

[87] $1.57 = e^{0.451}$

[88] Across the full range the partial effect is associated with the number of dissents increasing by a factor of 19.892 ($19.892 = e^{1.481--1.509}$), however this large range is likely an overestimate, due to the small number of observations in many of the areas of law, most of the coefficients for which are not themselves statistically significant.

[89] $P = 0.006$.

[90] $P = 0.198$

[91] $P = 0.223$

[92] Again, the Appendix also contains, by way of comparison, certain nested models. A model was also fitted with a cubic function of DBM below, to test if the relationship was non-linear, but a likelihood ratio test showed it to be no better a fit.

[93] $1.0131 = e^{(0.013048)}$

think in odds this can be difficult to interpret. Accordingly the probabilities implied by the model are best interpreted using examples, rather than focusing on the coefficient values.

The estimated values were used to predict the expected chance of a dissent in a UKSC case heard in 2009[94] with a panel of five judges. Five different areas of law were chosen that represent the range of estimated values for the effect of area of law.[95] The predictions are shown in the left-hand graph in Figure 3. For a penology and criminology case, the predicted effect of DBM score increasing from 0 to 100 would be to increase the predicted probability of dissent from 21 to 50 (a gain of 29 percentage points). For contracts, tax, social security and nuisance the predicted gains are respectively 13, 26, 31 and 22 percentage points.

When DBM score is equal to 40 the predicted probability of dissent is 10, 26, 31, 40, and 76 for, respectively, penology and criminology, contracts, tax, social security and nuisance. So when DBM score is equal to 40, a change in area of law is thus associated with a maximum change to the estimated probability of dissent of 76 percentage points.

In the restricted model the estimated coefficient of Convention rights discourse was 0.007, which means that holding all other variables constant a one unit increase in the DBM score of the decision below is associated with the odds of a dissent in the case being multiplied by 1.0075,[96] ie increases them by 0.75 per cent. The predictions for this restricted model are shown in the right-hand graph in Figure 3. This shows that the predicted effect of DBM score increasing from 0 to 100 would be to increase the predicted probability of dissent from 22 to 38 (a gain of 15 percentage points).

In summary, we see there to be statistical evidence that increases in Convention rights content (controlling for area of law and the date of the decision) are associated with both higher numbers of dissents and whether or not there is any dissent. However the magnitude of the effect may be considered somewhat similar to that associated with area of law.

[94] Specifically, the estimated values are based on a decision given on 30 July 2009, the median decision-date in the data.

[95] These were for the areas of law with the least, greatest and (weighted by frequency) median values and values at the 0.25 and 0.75 quantiles.

[96] $1.0131 = e^{(0.013048)}$

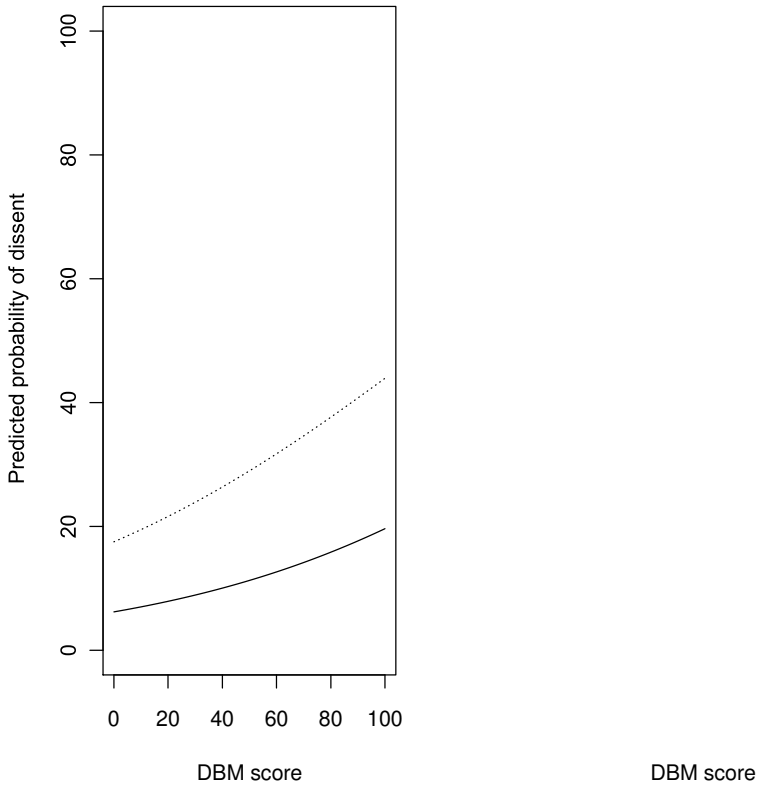

Figure 3: Predicted percentage chance of dissent across certain areas of law for a hypothetical case heard by the UKSC in 2010 for the full model (left) and predicted percentage chance of dissent for the restricted model (right).

CONCLUSION

This paper is the first systematic assessment of the impact of the HRA on different areas of law. It shows how Convention rights discourse is especially prevalent in crime, education, family, immigration, mental health and public law. Knowledge of the distribution of Convention rights discourse across substantive areas of law is potentially significant given the stated aspiration of the present Government to restrict a British Bill of Rights to certain areas of law.

This paper shows there to be some indeterminacy in Convention rights discourse by demonstrating how judges systematically differ in the Convention rights content of their decisions: the benchmarked DBM score is used to show how such variation is not attributable to the nature of the cases heard by those judges.

In addition to being indeterminate due to the variation in the extent to which Convention rights discourse is resorted to by different judges, Convention rights

content is arguably a source of indeterminacy because there are higher levels of dissent in cases where it is resorted to. However, the extent of such disagreement should not be over-emphasised. The fact that the estimated effect of Convention rights content on disagreement is somewhat less than the estimated effect of area of law might perhaps be thought to indicate that Convention rights content is no more a source of indeterminacy than standards in general, which are especially prevalent in certain areas of law, such as the 'best interests of the child' in family law. An opportunity for further research would be an assessment of the impact of the indeterminacy occasioned by Convention rights against the indeterminacy occasioned by standards more generally.

An empirical study such as this cannot by itself show that the higher levels of disagreement associated with higher levels of Convention rights discourse (controlling for date and area of law) justify repeal of the Human Rights Act on grounds of legal certainty. However by showing that there is a higher level of disagreement in such cases, contrary to earlier studies, it does show that the lower levels of certainty cannot be denied and must be justified (for example on policy grounds of producing fairer outcomes).

The foregoing conclusions stem from data in relation to the UKHL/UKSC over a twenty-year period. The cases heard by these courts are likely to involve a greater proportion of 'hard cases' where the existing law is more clearly indeterminate or of 'open texture' than the docket of other courts. The extent that these findings apply in other contexts could be a topic of future research.

Finally, this paper has developed an automated measure of Convention rights content which can be applied to other large legal corpora. For example, it could be applied to a study of the Administrative Court or Court of Appeal to assess the impact of the HRA on decision-making in these courts. Also by having provided a mechanism to identify human rights content, a future possibility for research would be to apply machine learning techniques to sub-categorise it.

A

B

APPENDIX

Certain words

A1P1 (and A1 P1)
A2P1 (and A2 P1)
A3P1 (and A3 P1)
abolition of the death penalty
Convention for the Protection of Human Rights and Fundamental Freedoms
convention right
convention rights
Court of Human Rights
degrading punishment
degrading treatment
¬ ECHR (and E.C.H.R.)
¬ ECtHR (and E.Ct.H.R.)
¬ EHHR (and E.H.H.R.)
¬ EHRR (and E.H.R.R.)
¬ EurCtHR (and Eur.Ct.HR)
European Court of Human Rights
free election
free expression
freedom of assembly
freedom of assembly and association
freedom of association
freedom of conscience
freedom of expression
freedom of religion
freedom of thought
freedom of thought, conscience and religion
¬ HRA (and H.R.A.)
human right
human rights
Human Rights Act
impartial tribunal
independent tribunal
inhuman punishment
inhuman treatment
no punishment without law
peaceful assembly
prohibition of compulsory labour
prohibition of discrimination

prohibition of forced labour
prohibition of slavery
prohibition of slavery and forced labour
prohibition of torture
protection of property
public hearing
respect for correspondence
respect for her correspondence
respect for her home
respect for her private life
respect for his correspondence
respect for his home
respect for his private life
respect for home
respect for private life
right to education
right to family life
right to form trade union
right to found a family
right to free elections
right to join trade union
right to liberty
right to liberty and security
right to life
right to marry
right to private and family life
right to private life
right to respect for private and family life
right to security
Strasbourg
torture

B

Potential words

accordance with the law
arbitrary
arrest
article
assistance of a lawyer
balance
balances
balancing
democratic society
detention

disadvantaged group
discriminate
discriminated
discriminates
discrimination
discriminatory
disproportional
disproportionality
disproportionate
economic well-being of the country
established by law
¬ European Court
fair hearing
fair trial
family life
freedoms of others
¬ Grand Chamber
incompatibility
interest of morals
interests of justice
interference
justification
justified
justify
least restrictive
legal advice
legal assistance
legality
legitimate aim
legitimate aims
less intrusive
less restrictive
liberty
national security
possessions
prescribed by law
presumed innocent
presumption of innocence
prevention of crime
prevention of disorder
private life
private lives
proportional

proportionality
proportionate
protect the reputation
protection of health
protection of morals
protection of the reputation
¬ Protocol
proved guilty
proven guilty
public hearings
public order
public safety
rational connection
reasonable expectation of privacy
respect for
rights of others
satisfy the aim
satisfy the objective
self-incrimination
¬ the Convention
¬ The Convention

v. Albania (or Andorra, Armenia, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Republic of Moldova, Monaco, Montenegro, The Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, Russian, San Marino, Serbia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, The former Yugoslav Republic of Macedonia, Turkey, Ukraine, United Kingdom)

v Albania (or Andorra, Armenia, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Republic of Moldova, Monaco, Montenegro, The Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, Russian, San Marino, Serbia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, The former Yugoslav Republic of Macedonia, Turkey, Ukraine, United Kingdom)

violate
violated
violates
violation

¬ denotes that the word is case sensitive in the DBM analysis.

B **Discussion on reliability and validity of DBM**

When dealing with measurement of variables in social sciences it is necessary that the measurements used are reliable and valid. With regard to reliability 'researchers must attempt to remove human judgment from measurement or, where judgment is necessary, they must make their measurements wholly transparent to others who may wish to reproduce, backdate or update their study – including themselves'.[97] A dictionary based method is by design replicable, in that it will return the same results on each occasion with the same data.[98] Conversely to satisfy this quality criterion more subjective coding requires consideration of both inter- and intra-rater reliability, i.e. coding by multiple coders and repeated coding by the same coder.[99] However, earlier studies of human rights litigation in the UKHL and UKSC do not report statistics for inter- and intra-rater reliability.

Additionally measurements must be valid, that is to say they should accurately reflect the underlying concept being measured.[100] To ensure validity the DBM was initially developed in consultation with other scholars expert in human rights. Any dictionary based method needs to be validated in the context in which it is used,[101] as such methods are highly sensitive to context.[102] This was addressed by checking the DBM against independent expert human coding of cases during its development.

The process of implementing the DBM was automated by reading the text of the decisions into R,[103] a freely available language and environment for statistical computing, and implementing the analysis using 'regular expressions'.

The operation of the iterative method is illustrated in the on-line appendix, available at:

Submitted to MLR as supplementary material: Wiley to provide URL

The on-line appendix contains the text of all UKSC judgments in 2017. It is annotated so paragraphs that are counted by the DBM as containing HRA content are shown in Roman type and paragraphs that are not counted are shown in *italic*

[97] L. Epstein and A. Martin, *An Introduction to Empirical Legal Research* (Oxford: OUP, 2014) 49.

[98] M. Laver and J. Garry, 'Estimating policy positions from political texts' (2000) 44(3) *American Journal of Political Science* 619.

[99] K. Krippendorff, *Content Analysis: An Introduction to Its Methodology* (Thousand Oaks: SAGE Publications, 3rd edn, 2012) ch 12.

[100] Epstein and Martin, *An Introduction to Empirical Legal Research* n 97 above, 49-59.

[101] J. Grimmer and B. Stewart, 'Text as Data: The Promise and Pitfalls of Automatic Content Analysis Methods for Political Texts' (2013) 21(3) *Political Analysis* 267, 267.

[102] T. Loughran and B. McDonald, 'When is a liability not a liability? Textual analysis, dictionaries, and 10-Ks' (2011) 66(1) *The Journal of Finance* 35, 36.

[103] R Core Team, *R: A Language and Environment for Statistical Computing* (Vienna, 2014) https://www.r-project.org/.

type. Certain words are highlighted in magenta. Potential words in paragraphs containing certain words, so the potential words are not themselves causing the paragraph to be counted, are highlighted in cyan (light blue). Potential words in paragraphs that count but contain no certain words (so only count because of the potential words) are highlighted in green. Potential words in paragraphs that do not count are highlighted in grey. The on-line appendix both gives the reader the opportunity to understand how the iterative method works, but also gives the reader the opportunity to assess the validity of the automated coding method. It is anticipated that there are most likely to be type II errors (ie failure to detect HRA content) where paragraphs not classified as HRA content are sandwiched between two paragraphs that are so classified: to expose the coding to the highest scrutiny such instances are noted on the markup.[104]

In aggregate the 1,343 UKHL/UKSC judgments in this study comprise of 105,187 paragraphs. Of those paragraphs 10,893 (10.4 per cent) are coded as having Convention rights content because they contain certain words. A further 22,804 paragraphs which do not contain certain words contain potential words: of those further paragraphs only 5,024 (4.8 per cent of all paragraphs and 22 per cent of paragraphs containing only potential words) are coded as having Convention rights content under the iterative method.

How accurate is the iterative method in identifying Convention rights content? Its accuracy was checked by randomly sampling 30 cases, from the 1,288 cases in the dataset that contained some paragraphs with potential words but not certain words (relevant paragraphs). In total there were 589 relevant paragraphs in the 30 sampled cases. All such relevant paragraphs were then manually checked by the author to see if the potential words were used in the context of Convention rights. To assist this analysis a short programme was written (using R and LaTeX) to extract these relevant paragraphs from the judgments, together with the immediately preceding paragraphs to add context. The programme then highlighted the potential words in the relevant paragraphs. Where necessary additional parts of the judgment were reviewed where there was some ambiguity about the use of the potential words. The manual coding was done by the author. The results of the manual coding are summarised in Table 5.

Was Convention talk present?		Code says		
		No	Yes	Total
Human says	No	320	53	373
	Yes	65	151	216
	Total	385	204	589

[104] The reader may find these by searching for the phrase 'The paragraphs to check (ie paragraphs not classified as HRA content but sandwiched between two paragraphs that are) are' in the markup.

Table 5: Table summarising the accuracy of the iterative method, cross-tabulating the results of the manual coding and the automated coding in the 30 sampled cases.

From this it can be seen that the rate of agreement on coding in the sample is 80 per cent,[105] with Cohen's kappa[106] equal to 0.56[107] which would generally be taken to indicate fair agreement.

The manual coding of the paragraphs found that in 216 (36.7 per cent) of those relevant paragraphs the potential words were used in the context of a discussion of Convention rights. The iterative method resulted in few type I errors: only 53 (26 per cent) of the 204 paragraphs in the sample which were automatically coded by the iterative method as containing Convention rights content did not contain potential words used in the context of Convention rights. The iterative method was only slightly less successful with regard to type II errors: 151 (69.9 per cent) of the paragraphs in the sample that the manual check revealed as containing potential words used in the context of a discussion of Convention rights were coded as such by the iterative method. Extrapolating, that would suggest that in the dataset of 105,187 paragraphs there are about 1,510[108]Convention rights paragraphs that are not detected by the iterative method. However, this needs to be seen in the context of the fairly small contribution of the potential words to the DBM scores, most of which are attributable to certain words. Seen in this context these type II errors only result in the DBM score being reduced by around 8.7 per cent,[109] that is to say a case with a reported DBM score of 18.3 is likely to have an actual DBM score of 20.[110]

Furthermore, the analysis in this paper is based on the DBM score of cases rather than that of paragraphs. We might therefore expect that the type I and type II errors would broadly cancel each other out in cases. This is indeed shown by an analysis of the 30 sampled cases. This shows that if the paragraphs that contain potential words were manually coded rather than coded according to the DBM this would on mean average decrease the DBM score by 0.6 percentage points (so a case with a DBM score of 20 would have a score of 20.6 if those paragraphs were manually coded). This number might be thought somewhat deflated by the inclusion of the 'easy' cases, where the DBM and manual coding both record a score of 0 (despite the presence of potential words). But even if such 'easy' cases are excluded the expected effect still is only to decrease the DBM score by 1.5 percentage points. Clearly the effect will vary somewhat between sampled cases. The interquartile range of variation in the sample if the easy cases are omitted is between an increase of 5.1 and decrease of 4.3 percentage points.

[105] 0.8 = (320 + 151)/589.

[106] For a discussion of this and other measures of reliability, see Krippendorff n 99 above, ch 12.

[107] 0.56 = 1 − ((53/589) + (65/589))/(((385/589) ∗ (216/589)) + ((204/589) ∗ (373/589))).

[108] ie, 5,024*((100-69.9)/100).

[109] 1,510/(1,510+10,893+5,024).

[110] 18.3 = 20(1 − 0.087).

Statistical model of whether some judges are more likely than others to engage in Convention rights discourse.

The model was estimated on a restricted dataset comprising only the speeches/judgements of 5 or more paragraphs and only speeches/judgements by judges who have 15 or more such judgements.[111]

The model estimated in the regression is:

$$logit(HR_{ij}) = \alpha + \mu_j + \beta_1 Judge_1 + ... + \beta_n Judge_n + \beta_{n+1} logit(DBM\ BELOW * 0.01) + \beta_{n+2}(ZERO\ DBM\ BELOW)$$

where:

$$\mu_j \sim N(0, \Omega_\mu)$$

The model estimates the log-odds of whether any paragraph ($_i$) in any speech/judgment ($_j$) contains Convention rights content. The logistic transformation of the outcome variable is used due to the binary nature of whether or not a paragraph contains Convention rights content (HR).[112] The model contains a random variable (μ_j) to control for dependency between paragraphs in the same speech/judgment. Using such a 'multilevel' model is necessary since failure to account for such dependency can result in a dramatic exaggeration of the sample size, and therefore incorrect estimations of standard errors and intervals and tests based upon them.[113] The model includes categorical variables ($Judge_1 ... Judge_n$), to allow for an assessment of whether judges resort to Convention rights discourse with different propensities. 'Judgment of the Court' is used as the reference category, in respect of which no such categorical variable is therefore included.

To control for the issues in some cases being more likely to give rise to Convention rights discourse, the model includes the DBM score of the decision being appealed (DBM BELOW). To place it on the same scale as the dependent variable we are estimating, it is first converted from a percentage to a probability (ie divided by 100), then subject to a logistic transformation.[114] Observations where *DBM BELOW* = 0 would lead to a transformed value of -Inf, which would cause issue in estimation, such values are substituted for -5, which approximately corresponds to logit(0.007). Since the choice of -5 is somewhat arbitrary, the model also includes a dummy

[111] This was done due to difficulties associated with estimating a multilevel model where there is no heterogeneity of response variable in any category.

[112] For an explanation of why logistic models are used in such circumstances see, eg, G. James and others, *An Introduction to Statistical Learning: with Applications in R* (New York: Springer, 2013) 130-134; or A. Agresti and B. Finlay, *Statistical Methods for the Social Sciences: Pearson International Edition* (London: Pearson, 2009) 483-493.

[113] See, eg, T. Snijders and R. Bosker, *Multilevel Analysis: An Introduction to Basic and Advanced Multilevel Modeling* (London: Sage, 1999) 15.

[114] Fitting a model without such a transformation results in a model with many fitted probabilities very close to 0 or 1.

variable for where *DBM BELOW* = 0, effectively allowing for the adjustment of this somewhat arbitrary choice.[115]

The model was estimated in MLwiN[116] (a specialist package for multilevel models) using (Bayesian) MCMC estimation.[117] MCMC estimation was used because there are large numbers of speeches/judgements (the level 2 unit) where there is no Convention rights content in the UKHL/UKSC. There are often difficulties in estimating such models for binary response variables using frequentist inference, which can be overcome using MCMC estimation.[118]

Whether the differences between judges was statistically significant was tested by comparing the model to a restricted version of the model which did not include the categorical variables for judges ($\beta_1 Judge_1 + ... + \beta_n Judge_n$). As the model was estimated using MCMC rather than frequentist inference, model comparison using a likelihood ratio test was not possible. Rather, as is appropriate, the DIC statistic was used to compare the models.[119] Such a model comparison shows the original model has a much lower DIC statistic (46,202) than the restricted model (46,450), suggesting it is a better fit and therefore that the difference between judges is statistically significant.

The estimated coefficients are set out in Table 6.

[115] It would also have been necessary to include such an adjustment in any instances where *DBM BELOW* = 100, corresponding to a transformed value of Inf. However there are no such instances in the data where *DBM BELOW* = 100.

[116] C. Charlton et al, *MLwiN Version 3.04* (Bristol: Centre for Multilevel Modelling, University of Bristol, 2019).

[117] W. Browne, *MCMC Estimation in MLwiN v2.1* (Bristol: Centre for Multilevel Modelling, University of Bristol, 2009).

[118] J. Rasbash et al, *A User's Guide to MLwiN, v2.10* (Bristol: Centre for Multilevel Modelling, University of Bristol, 2009) 190.

[119] For a discussion of the use of the DIC statistic see, eg, in Browne n 117 above, 28-29; A. Gelman and J. Hill, *Data Analysis Using Regression and Multilevel/Hierarchical Models* (Cambridge: CUP, 2007) 524-526; and A. Gelman and others, *Bayesian Data Analysis* (Boca Raton, Florida: Chapman and Hall, 2013) 172-173.

Variable	Coef.	Std. Err.	z	Pr(>|z|)	95% Cred. Interval		ESS
The fixed part estimates:							
Cons	-0.12	0.42	-0.29	0.7753	-0.96	0.67	552
logit(DBM below)	1.02	0.05	22.04	1.23e-107	0.92	1.11	12,617
Zero	-1.10	0.20	-5.35	8.598e-08	-1.51	-0.70	6,578
Bingham	0.05	0.42	0.13	0.8993	-0.74	0.89	534
Brown	0.26	0.42	0.62	0.5336	-0.52	1.11	543
Browne-Wilkinson	1.16	0.52	2.22	0.0264	0.14	2.18	1,037
Carnwath	-0.15	0.44	-0.34	0.7337	-0.98	0.72	607
Carswell	-0.24	0.43	-0.54	0.5865	-1.05	0.62	592
Clarke	-0.51	0.44	-1.17	0.2422	-1.33	0.37	604
Clyde	0.22	0.45	0.49	0.6234	-0.64	1.12	637
Collins	-0.15	0.46	-0.32	0.7496	-1.01	0.77	694
Cooke	0.49	0.51	0.96	0.3350	-0.48	1.48	853
Dyson	0.19	0.43	0.45	0.6546	-0.62	1.06	576
Hale	0.15	0.42	0.35	0.7267	-0.64	0.98	531
Hobhouse	0.04	0.44	0.10	0.9221	-0.77	0.91	583
Hodge	-0.61	0.53	-1.14	0.2551	-1.65	0.46	868
Hoffmann	-0.05	0.42	-0.13	0.8988	-0.85	0.79	557
Hope	0.45	0.42	1.07	0.2868	-0.34	1.29	529
Hughes	-0.21	0.44	-0.48	0.6340	-1.05	0.66	649
Hutton	0.43	0.43	1.02	0.3100	-0.37	1.29	564
Kerr	0.07	0.43	0.17	0.8689	-0.73	0.92	540
Lloyd	-0.70	0.48	-1.45	0.1457	-1.62	0.25	734

Mackay	0.61	0.64	0.95	0.3441	-0.65	1.85	1,382
Mance	0.13	0.42	0.31	0.7541	-0.66	0.97	533
Millett	-0.25	0.44	-0.58	0.5643	-1.08	0.63	593
Neuberger	-0.48	0.42	-1.12	0.2607	-1.28	0.36	542
Nicholls	0.05	0.43	0.11	0.9100	-0.75	0.89	573
Phillips	-0.03	0.43	-0.07	0.9435	-0.82	0.82	540
Reed	0.20	0.43	0.46	0.6457	-0.62	1.05	551
Rodger	-0.20	0.42	-0.48	0.6339	-0.99	0.64	545
Scott	-0.26	0.43	-0.61	0.5398	-1.06	0.59	581
Slynn	-0.24	0.44	-0.56	0.5785	-1.07	0.63	626
Steyn	0.20	0.43	0.46	0.6453	-0.61	1.05	569
Sumption	0.27	0.43	0.62	0.5350	-0.55	1.12	585
Toulson	-0.66	0.44	-1.49	0.1374	-1.50	0.21	624
Walker	0.07	0.43	0.16	0.8730	-0.73	0.92	601
Wilson	0.09	0.43	0.21	0.8368	-0.73	0.95	588
The random part estimates at the speech level:							
μ_j	2.42	0.18			2.10	2.79	2,052
Bayesian Deviance Information Criterion (DIC):							
Dbar		D(thetabar)		pD		DIC	
45,511		44,822		689		46,201	

Table 6: Estimated coefficients for logistic regression model for the human rights content of paragraphs in judicial decisions in the UKSC/UKHL, controlling for the human rights content of the decision being appealed and the judge giving the speech. A random variable is used to control for dependency between paragraphs in speeches.

B

Statistical model of whether judicial disagreement more common in cases with higher levels of Convention rights discourse.

	Dependent variable:			
	Number of dissents			
	(1)	(2)	(3)	(4)
DBM score below	0.005	0.004	0.008**	0.008**
	(0.003)	(0.003)	(0.004)	(0.004)
year		0.071		0.114**
		(0.056)		(0.058)
Year^2		−0.004		−0.006**
		(0.003)		(0.003)
Panel size	0.419***	0.423***	0.420***	0.414***
	(0.057)	(0.058)	(0.056)	(0.057)
Area of law			note 1	note 2
Constant	−3.159***	−3.371***	−3.486***	−3.840***
	(0.311)	(0.357)	(0.504)	(0.536)
Observations	998	998	998	998
Log Likelihood	−857.948	−856.702	−821.997	−819.824
Θ	0.762***	0.771***	1.184***	1.201***
	(0.141)	(0.143)	(0.271)	(0.276)
Akaike Inf. Crit.	1,121.487	1,122.866	1,172.238	1,172.999

Note: *p<0.1; **p<0.05; ***p<0.01

[1] real property 0 (0.601), tax -0.012 (0.517), criminal evidence -0.02 (0.599), family law -0.062 (0.482), civil procedure -0.108 (0.471), police -0.132 (0.703), housing -0.233 (0.739), arbitration -0.246 (1.15), extradition -0.39 (0.6), local government -0.45 (1.136), planning -0.535 (0.683), environment -0.566 (1.131), immigration -0.582 (0.467), pensions -0.669 (1.123), international law -0.919 (0.846), contracts -1.543 (1.125), administration of justice 0 (0), criminal law 0.048 (0.501), penology and criminology 0.056 (0.545), health 0.082 (0.763), employment 0.094 (0.473), consumer law 0.184 (0.684), insolvency 0.185 (0.573), administrative law 0.254 (0.582), utilities 0.271 (1.198), mental health 0.294 (0.61), criminal procedure 0.353 (0.449), human rights 0.36 (0.467), government administration 0.393 (1.018), social security 0.425 (0.531), construction law 0.47 (0.91), constitutional law 0.529 (0.603), social welfare 0.594 (0.628), landlord and tenant 0.598 (0.468), civil evidence 0.625 (0.698), negligence 0.631 (0.514), professions 0.669 (1.093), heritable property 0.693 (1.258), personal injury 0.777 (0.664), defamation 0.778 (0.814), shipping 0.78 (0.635), vat 0.824 (0.515), transport 0.834 (0.933), media and entertainment 0.854 (0.833), European Union 0.892 (0.728), insurance 0.9 (0.571), road traffic 0.931 (0.96), armed forces 0.964 (0.994), financial regulation 0.969 (0.97), health and safety at work 0.981 (0.648), prescription 0.981 (0.97), education 1.038* (0.587), electoral process 1.085 (0.981), banking and finance 1.108* (0.606), trusts 1.157 (0.998), company law 1.163 (0.761), torts 1.291** (0.503), nuisance 1.375* (0.724), equity 1.387 (1.04).

2. contracts -1.509 (1.121), international law -0.785 (0.845), environment -0.658 (1.134), immigration -0.598 (0.469), pensions -0.559 (1.139), planning -0.537 (0.688), extradition -0.469 (0.601), local government -0.432 (1.146), arbitration -0.288 (1.152), housing -0.256 (0.738), civil procedure -0.109 (0.471), police -0.088 (0.705), family law -0.075 (0.484), real property -0.044 (0.602), tax -0.019 (0.518), criminal evidence -0.012 (0.601), administration of justice 0 (0), penology and criminology 0.048 (0.546), criminal law 0.052 (0.502), employment 0.077 (0.475), utilities 0.163 (1.203), health 0.178 (0.764), insolvency 0.189 (0.575), consumer law 0.199 (0.684), administrative law 0.255 (0.584), mental health 0.281 (0.612), human rights 0.314 (0.467), criminal procedure 0.319 (0.45), government administration 0.319 (1.016), constitutional law 0.457 (0.6), construction law 0.463 (0.921), social security 0.464 (0.531), civil evidence 0.53 (0.698), social welfare 0.552 (0.628), landlord and tenant 0.594 (0.468), negligence 0.609 (0.514), heritable property 0.643 (1.263), professions 0.672 (1.106), personal injury 0.741 (0.664), defamation 0.768 (0.816), shipping 0.834 (0.637), VAT 0.876* (0.517),

media and entertainment 0.935 (0.843), health and safety at work 0.944 (0.649), armed forces 0.968 (1.001), transport 0.973 (0.918), insurance 0.979* (0.57), European Union 0.985 (0.722), road traffic 0.99 (0.96), education 1.004* (0.588), company law 1.076 (0.764), prescription 1.089 (0.986), financial regulation 1.109 (0.962), trusts 1.131 (0.996), banking and finance 1.169* (0.604), electoral process 1.173 (0.973), torts 1.291** (0.505), equity 1.382 (1.044), nuisance 1.481** (0.724).

	Dependent variable:			
	DISSENT			
	(1)	(2)	(3)	(4)
DBM score below	0.007**	0.007**	0.013***	0.013***
	(0.004)	(0.004)	(0.005)	(0.005)
year		0.064		0.113
		(0.067)		(0.073)
$Year^2$		−0.004		−0.006*
		(0.003)		(0.004)
Panel size	0.464***	0.475***	0.518***	0.522***
	(0.083)	(0.086)	(0.093)	(0.096)
Area of law			note 1	note 2
Constant	−3.569***	−3.748***	−4.511***	−4.870***
	(0.444)	(0.488)	(0.750)	(0.787)
Observations	998	998	998	998
Log Likelihood	−557.743	−556.433	−525.119	−523.499
Akaike Inf. Crit.	1,121.487	1,122.866	1,172.238	1,172.999
Note:				*p<0.1; **p<0.05; ***p<0.01

[1] contracts -0.994 (0.41), planning -0.57 (0.536), immigration -0.54 (0.385), international law -0.512 (0.626), constitutional law -0.12 (0.902), pensions -0.072 (0.953), administration of justice 0 (0), environment 0.082 (0.947), extradition 0.108 (0.885), consumer law 0.113 (0.906), mental health 0.191 (0.822), tax 0.21 (0.758), criminal evidence 0.227 (0.77), local government 0.228 (0.852), criminal law 0.245 (0.716), real property 0.295 (0.703), police 0.332 (0.699), civil procedure 0.339 (0.585), family law 0.382 (0.544), health 0.417 (0.663), penology and criminology 0.448 (0.524), arbitration 0.492 (0.692), housing 0.505 (0.549), employment 0.514 (0.412), construction law 0.534 (0.668), criminal procedure 0.65 (0.287), administrative law 0.655 (0.388), government administration 0.696 (0.609), insolvency 0.774 (0.288), social security 0.807 (0.25), human rights 0.807 (0.21), transport 0.84 (0.541), European Union 1.011 (0.328), education 1.062 (0.227), landlord and tenant 1.071* (0.095), social welfare 1.088 (0.19), personal injury 1.091 (0.237), road traffic 1.102 (0.411), armed forces 1.107 (0.475), civil evidence 1.17 (0.218), negligence 1.178* (0.085), electoral process 1.188 (0.458), utilities 1.193 (0.373), financial regulation 1.208 (0.367), health and safety at work 1.227 (0.169), prescription 1.227 (0.36), professions 1.304 (0.408), VAT 1.376** (0.045), defamation 1.39 (0.19), trusts 1.402 (0.369), company law 1.515 (0.154), media and entertainment 1.531 (0.177), torts 1.686** (0.018), shipping 1.738* (0.033), insurance 1.836** (0.016), equity 1.92 (0.205), heritable property 1.92 (0.205), banking and finance 1.953** (0.027), nuisance 2.293** (0.031).

2 constitutional law -0.202 (0.834), international law -0.376 (0.719), immigration -0.536 (0.39), planning -0.546 (0.555), contracts -0.949 (0.429), administration of justice 0 (0), environment 0.008 (0.995), extradition 0.031 (0.967), pensions 0.112 (0.927), consumer law 0.137 (0.885), mental health 0.187 (0.826), tax 0.217 (0.752), criminal evidence 0.229 (0.768), criminal law 0.244 (0.717), real property 0.251 (0.746), local government 0.289 (0.814), civil procedure 0.333 (0.593), family law 0.381 (0.547), police 0.401 (0.642), penology and criminology 0.456 (0.517), arbitration 0.47 (0.706), housing 0.488 (0.564), employment 0.516 (0.413), health 0.54 (0.574), construction law 0.578 (0.643), criminal procedure 0.618 (0.312), government administration 0.627 (0.646), administrative law 0.678 (0.373), human rights 0.749 (0.246), insolvency 0.794 (0.278), social security 0.851 (0.227), transport 0.944 (0.489), education 1.038 (0.241), social welfare 1.047 (0.21), landlord and tenant 1.056 (0.1), European Union 1.058 (0.307), civil evidence 1.059 (0.267), personal injury 1.065 (0.248), utilities 1.107 (0.41), armed forces 1.146 (0.463), negligence 1.159 (0.091), road traffic 1.178 (0.381), health and safety at work 1.182 (0.187), electoral process 1.234 (0.444), financial regulation 1.354 (0.316), defamation 1.384 (0.193), trusts 1.395 (0.374), professions 1.411 (0.383), prescription 1.415 (0.294), VAT 1.44 (0.037)*, company law 1.461 (0.172), media and entertainment 1.61 (0.159), torts 1.707 (0.017)*, shipping 1.814 (0.027)*, insurance 1.912 (0.013)*, heritable property 1.916 (0.207), equity 1.941 (0.201), banking and finance 2.014 (0.023)*, nuisance 2.389 (0.025)*.