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HURLING REFEREES AS JUDGES

Abstract: There is a history of contrasting judges to sporting officials in legal jurisprudential writings. In drawing similarities between the roles during his confirmation hearings, Chief Justice of the United States Supreme Court John Roberts brought the comparison centre-stage when he used the analogy, 'judges are like umpires'. The suitability of Roberts's comparison was questioned by Richard Posner, who reversed the analogy and used it to distinguish between his categories of judicial decision-making. Posner employed empirical evidence from American legal, rather than sporting, arenas to classify American judges. This article seeks to add empirical evidence from the sporting side of the analogy. Using data from the sport of hurling, the article suggests that hurling referees are similar to Posner's constrained pragmatists and that line officials in hurling might be closer to what Roberts had in mind.

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Introduction

When Chief Justice John Roberts uttered the words, 'Judges are like umpires' during his confirmation hearing for Chief Justice of the US Supreme Court in 2005, he inspired a range of commentary on the analogy.[2] Richard Posner evaluated the analogy in *How Judges Think*. While Posner is critical of Roberts's use of the analogy, he does see some value in comparing legal and sporting adjudicators. He reverses and extends the analogy, saying,

> Against Roberts's umpireal analogy, therefore, I set the story of the three umpires asked to explain the epistemology of balls and strikes. The first umpire explains that he calls them as they are, the second that he calls them as he sees them, and the third that there are no balls or strikes until he calls them. The first umpire is the legalist. The second umpire is the pragmatic trial judge (as *he* sees them). The third is the appellate judge deciding cases in the open area. His activity is creation rather than discovery.[3]

In addition, Posner examines empirical evidence of the decisions of those on one side of the analogy – judges, rather than umpires.[4] This leads him to contend that '[t]he word that best describes the average American judge at all levels of our judicial hierarchies and yields the greatest insight into his behaviour is "pragmatist" (more precisely … "constrained pragmatist")'.[5] Unfortunately, and despite noting that Major League Baseball introduced pitch-tracking technology in 2002, Posner did not use this data to examine the decision-making of baseball umpires. The results yielded by those who have examined these decisions suggest umpires could also be labelled as "constrained pragmatists". Maybe US judges are like umpires in ways that US judges have not considered.

[1] We would like to thank Dr Laura Cahillane, Professor Shane Kilcommins and two anonymous reviewers for their feedback on earlier drafts.

[2] Theodore A McKee, 'Judges as Umpires' (2006) 35(4) *Hofstra Law Review* 1709 Brett M Kavanaugh, 'The Judge as Umpire: Ten Principles' (2015) 65(3) *Catholic University Law Review* 683.

[3] Richard A Posner, *How Judges Think* (Harvard University Press 2008) 81.

[4] The evidence tends to correlate legal decisions and political variables such as the party of nominating U.S. President. Posner has worked with political scientist Lee Epstein on related work, see Lee Epstein, William M Landes and Richard A Posner, *The Behavior of Federal Judges: A Theoretical and Empirical Study of Rational Choice* (Harvard University Press 2012).

[5] Posner (n 3) 230.

In what follows we present evidence on one side of the analogy for Ireland. Specifically, we examine decisions made by hurling referees and line officials from the 2022 All-Ireland Senior Hurling Championship. We consider how this evidence might align with the legal classifications in Posner's analogy, although we leave considerations about the alignment with the decisions of judges in Ireland to others. We suggest that the line official might be classified as a legalist. The referee is more difficult to classify, as the extent of his or her interpretative freedom is such that law is arguably created. However, the better classification might be the constrained pragmatist, as they are constrained by external and internal influences. They are also pragmatic in their consideration of the consequences of their decisions, and show a compensating tendency towards the teams falling behind on the scoreboard at the time a free shot is awarded.

The next section briefly outlines some literature on the judge-umpire analogy and some data from US sports that might have caused Roberts and Posner to reconsider how they use of the analogy. We then outline the decision-making tasks of the line officials and referees in the Irish game of hurling. Numerical data on the actual decisions of each set of officials for the 2022 All-Ireland Senior Hurling Championship season is presented. This data suggests a relationship between decisions and non-rule factors, such as the scoreboard. One might be tempted to argue that the referee is more analogous to the third judge in Posner's umpireal analogy. However, there are significant external and internal constraints on the referee. We devote sections to outlining these constraints and explaining how pragmatic adjudication might explain the distribution of the free shot awards.

A Brief History of the Analogy and Recent Evidence from Sport

The historical pedigree of the judge-umpire analogy began with the wrestling umpire and it was initially advanced by the US Courts for the purpose of rejection on the grounds that trial judges did not do what wrestling umpires did.[6] As the popularity of baseball grew at the turn of the twentieth century, the baseball umpire replaced the wrestling umpire in the analogy. The analogy was repackaged and presented in a more favourable light by Justice Jackson in 1951 in his lauding of Judges Learned and Augustus Hand during a speech at the American Bar Association.[7] Given the growing popularity of sport, it is not surprising that comparisons between sporting and legal adjudication increased. In the second half of the twentieth century, two pre-eminent legal philosophers used examples of decision-making by sports officials to illustrate their concepts of law. HLA Hart explains how the legitimacy of the cricket umpire's decisions is determined by the secondary rules of the game, while the official is constrained by the primary rules of the game.[8] Ronald Dworkin used the "hard case", presented by the behaviour of Mikhail Tal in his chess match with Bobby Fischer, to illustrate his concept of institutional rights.[9] In this case, the rules of interpretation required the interpretation on the part of the referee in order to decide if Tal's smiling at Fischer meant he should forfeit the game. Dworkin argues that the referee is constrained by the character of the game – the understanding of which a referee will have developed by experience. In this context, it is possible that Roberts was simply 'updating for a sports-crazed era Alexander Hamilton's description of the judge as a government official'[10] when he moved the analogy

[6] One of the more obvious differences being that a wrestling umpire is a witness to the events on which they decide.
[7] Aaron Zelinsky, 'The Justice as Commissioner: Benching the Judge-Umpire Analogy' (2010) 119 *Yale Law Journal Online* 113.
[8] Herbert LA Hart, *The Concept of Law* (3rd edn, Oxford University Press 2012) 141-5.
[9] Ronald Dworkin, *Taking Rights Seriously* (Bloomsbury Academic 2013) 126-30.
[10] Posner (n 3) 78.

to the political theatre of a confirmation hearing. Whatever his motivation, Roberts's use of the judge-umpire analogy brought it centre stage. Over a decade later, and prior to his confirmation hearings for the Supreme Court, Justice Brett Kavanaugh voiced his approval of Roberts's use of the analogy:

> What a great way to capture a key principle in a very simple explanation. But that notion, that a judge is just an umpire, has been criticized. Some say "Judges are just politicians in robes." Or, "Judges are advocates; they're partisans." Or "Judges are policymakers." Or "Judges are not mere robots." The varying objections reflect, in my view, a misapprehension of what a judge does and should do – and also a bit of a misapprehension of what an umpire does and should do.[11]

This raises the empirical question that Posner left unaddressed: What do baseball umpires do? A knowledge of the burgeoning empirical literature on biased decision-making by legal and sporting adjudicators might have cautioned Roberts, Posner, Kavanaugh, and others to consider the analogy more carefully. To illustrate, one such paper shows that asylum judges, financial loan officers, and baseball umpires appear to suffer from the Gambler's Fallacy, e.g. an asylum judge is statistically more likely to inappropriately refuse asylum after a sequence of applications where they granted asylum.[12] The empirical evidence supports the judge-as-umpire analogy but not in the manner Justice Kavanaugh had in mind. It is slightly more surprising that Posner, an empiricist, did not seek to illustrate his version of the analogy with data on the decisions of baseball umpires or other sports officials.[13] The empirical evidence would also have given Posner reason to reconsider the following statement:

> In Roberts's metaphor, the judge, like the umpire, does not have a preference between contenders. Where the metaphor misleads is in denying that judges have and implement preferences between rules, or between litigants viewed as representatives parties (the prosecutor, not Mr. X; the criminal defendant, not Mr. Y) as umpires cannot do, at least since the advent of the Umpire Information System.[14]

The evidence shows that baseball umpires do not have preferences between the contenders (e.g. Yankees or Red Sox), but they implement preferences between representative parties (the competitor behind in the count regardless of whether the player is from the Red Sox or Yankees).[15] Despite what Posner expected, the evidence is for the period after the Umpire Information System was introduced. Justice Kavanaugh is correct in saying that there is a bit of a misapprehension of what an umpire does. The empirical literature on sports adjudication reveals a range of biases in decision-making. An understanding of what sports adjudicators do, and should do, might provide additional tools for legal reasoning and illustration.

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[11] Kavanaugh (n 2) 685.

[12] Daniel L Chen, Tobias J Moskowitz and Kelly Shue 'Decision Making under the Gambler's Fallacy: Evidence from Asylum Judges, Loan Officers, and Baseball Umpires' (2016) 131(3) *The Quarterly Journal of Economics* 1181.

[13] On the one hand, this is surprising. While writing his English Literature dissertation on William Butler Yeats, Posner never considered visiting the relevant locations in Ireland. He explained his oversight to his biographer by saying that "was before he became an empiricist". On the other hand, it is less surprising because Posner admits that he does not watch sport.

[14] Posner (n 3) 81.

[15] Tobias Moskowitz and Lewis Jon Wertheim. *Scorecasting: The Hidden Influences behind How Sports are Played and Games are Won* (Crown Archetype 2011); Elsewhere Posner has provided evidence from cases involving the 'Economic Loss Rule' to show that, in the idiosyncratic cases, US judges favour the economically weaker party in the dispute, see Anthony Niblett, Richard A Posner and Andrei Shleifer 'The Evolution of a Legal Rule' (2010) 39(2) *The Journal of Legal Studies* 325.

There is a jurisdictional context here; baseball is America's national pastime and empirical 'research on different aspects of judicial decision-making has for many years been dominated by studies of US judges operating within the US judicial system'[16]. Different jurisdictions are taking different approaches to the use of evidence in aiding, evaluating, and monitoring judicial decision-making. China has embraced artificial intelligence while France has effectively banned scholarship on individual judges.[17] There are no such differences when it comes to using evidence of decision-making from the sporting world. Much of this literature draws on psychology and attempts to identify biases in decision-making. Most of the literature also examines the decisions of competitors, but there is a sizable strand on the decisions of adjudicators, including the baseball umpire or the soccer referee. However, there is little statistical evidence on the decisions of sporting adjudicators in hurling, Gaelic football, or other sports played in Ireland. Such evidence might be useful as the Irish legal profession has been known to use sporting analogies and illustrations. In discussing the Trade Union Act 1941, O'Byrne J said that requiring those considering union membership to join a particular union was similar to saying 'that people who wanted to play Soccer, for instance, must join only Shamrock Rovers'.[18] Clarke CJ (as he then was) provided a more recent, and possibly more relevant example, in *Fox v Minister for Justice* where he said:

> It may well matter quite a lot to many to determine whether the striker was offside when scoring the winning goal, the full forward was in the small parallelogram before the ball which she fisted into the net arrived, or the flanker had managed to keep his hand between the ball and the ground as the wing sought to score a try. However, no-one would think that a court should make declarations on such issues even where hotly disputed. The reason, of course, is that they do not have a legal element to them.[19]

The empirical evidence presented below examines the decisions of officials in hurling. We use this evidence to align the hurling officials with Posner's conceptual classification of judicial decision-making. The question as to whether they provide insights into legal decision-making in Ireland will be left for others to consider.

Line Officials as Legalists

When considering decision-making, it is worth distinguishing between two types of officials in a game of hurling. The primary task of the referee is to adjudicate on the rules of fair and foul play within the playing area. The other officials must make a call when the ball leaves the rectangular playing area. The officials tasked with making calls on the short side of the rectangular playing area, in the middle of which the scoring zone is located, are called umpires. The officials assigned to each long side of the rectangular playing area are known as line officials. The decisions of the line officials are the focus of this section, and will later be compared to the decisions of referees.

[16] Brian M Barry, *How Judges Judge: Empirical Insights into Judicial Decision-Making* (Routledge 2021) 8.
[17] ibid ch 8.
[18] Donal Coffey, "'The union makes us strong": *National Union of Railwaymen v. Sullivan* and the demise of vocationalism in Ireland' in Laura Cahillane, James Gallen and Tom Hickey (eds), *Judges, Politics and the Irish Constitution* (Manchester University Press 2017) 189.
[19] [2021] IESC 61 [11.4].

The playing area for hurling is a rectangle with smaller sides of between 80m and 90m and longer sides of between 130m and 145m.[20] A free ground shot is awarded against the team that last touched the ball before it exited the playing area on the long sides. The line official must decide if the ball left the playing area and the team to last touch the ball before it left the area. If the official is unsure who last touched the ball, then they throw it in between players from opposing teams.

The decision to award a free ground shot is relatively infrequent. These decisions are infrequent because the scoring zones are located on the smaller sides of the rectangular playing area perpendicular to, and at least 40m from, the decision plane of the line official. For most of the game, the ball progresses in the direction of one of the scoring zones. In 2022, the average number of calls was 14 per game or seven per official. These seven calls are spread over 70 minutes at unknown intervals.

In terms of ball location, the decisions are relatively easy to make. Line officials are literally and figuratively using a bright-line rule. The line official makes one dichotomous decision in terms of ball location: Did the ball cross the plane that defines the playing area and is marked by a white line on the field? Due to the location of the line relative to the scoring zone, the balls that tend to leave the playing zone in this way tend to leave the playing area not far above the white line marked on the field.

In terms of deciding on the ball location, the line official in hurling is a better illustration of Posner's legalist, than a baseball umpire. Compare the task of the line official with that of the baseball umpire. While the length of the strike zone in baseball is only 17 inches, the vertical location of the zone is defined by the stance and physical characteristics of the batter, as interpreted by the umpire, and the borders are not directly bounded by any physical item that might aid the umpire. The Official Rules of Baseball say,

> The STRIKE ZONE is that area over home plate the upper limit of which is a horizontal line at the midpoint between the top of the shoulders and the top of the uniform pants, and the lower level is a line at the hollow beneath the knee cap. The Strike Zone shall be determined from the batter's stance as the batter is prepared to swing at a pitched ball.[21]

One of the reasons for the introduction of pitch-tracking technology by Major League Baseball was to monitor and reduce the interpretive freedom of umpires in relation to the above definition.

The size of the area covered by the line official in hurling relative to the size of the ball means that there are fewer 'close calls' than in baseball. The diameter of a baseball is just under three inches, meaning that only six balls could be placed side by side along the length of the strike zone. The hurling ball is approximately the same size as the baseball, but around 2,000 could be placed side by side along the sideline. There are fewer vertical borderline calls required in hurling.

[20] The venues used for the 2022 hurling games examined in this paper only differed from these rule book minimum-maximum in respect of the minimum length, where the shortest venue was 137m.
[21] Professional Baseball Playing Rules Committee, 'Official Baseball Rules' (2021) <https://img.mlbstatic.com/mlb-images/image/upload/mlb/atcjzj9j7wrgvsm8wnjq.pdf> accessed 26 March 2024, as cited in McKee (n 2) 1709.

The above applies to ball location decisions. The task of the line official is complicated by the need to also identify the team to last touch the ball before it left the playing area, which is not required in baseball. Few of these calls are contested and those that are contested are not contested with any great vigour. One possible reason is that the decisions by line officials in hurling imposes a relatively small cost on the side against which they are awarded, as only 2.5 per cent of the free ground shot results in a direct score.[22] Few believe that the need to improve the calls is anywhere near the top priorities of the sport. The governing body of the game has installed score detection technology in two venues – Croke Park and Semple Stadium.[23] Cost is usually cited as the reason for not extending the use of the technology to other venues. While it is accepted that there would be benefits from extending the use of the technology to other grounds for the purpose of score detection, the benefits of identifying when the ball crosses the sideline are negligible, and the need to detect the last player to touch the ball would remain. It could also be argued that line calls are of less importance to the character of the game compared to score detection – an argument used to explain why tennis uses the same technology for ball location but not foot faults.[24]

There is no evidence to suggest that the line officials show 'sympathy for' the teams behind on the scoreboard. In 2022, the line officials at the 34 senior inter-county hurling championship games decided that the ball left the long side of the playing area 481 times. On 43 of these occasions the teams were level. The remaining 438 were awarded almost equally to the teams ahead (220) and behind (218) on the scoreboard. On these numbers there is no evidence of sympathy for the team behind on the scoreboard.[25] Line officials have very little interpretative freedom in the application of bright line rules. Referees, on the other hand, are required to make very different decisions.

The Decision of Hurling Referees

The 1998 hurling season featured some of the most controversial games and refereeing decisions in living memory. A time-keeping error by the referee resulted in an All-Ireland semi-final being replayed. During that game, there was another controversial decision made by Jimmy Cooney, the referee, who describes the incident in the hurling documentary *Men in Black*:

> My first instinct when I saw it was, 'send him off.' But, as I came over to him – and this is the truth – I looked at the score and said, oh God, there are nine points between them and if I do this, I'm only making trouble for myself. It will be gone out of Offaly's reach at so early a stage and they'll only get negative in their hurling. That was the way I 'read' it and I decided to leave him on. But, it was probably a wrong decision. It was. He should have gone! I saw the incident

[22] John Considine, 'Sideline Strikes and Strategies' (*The Economics of Sport,* 3 September 2022) <www.sportseconomics.org/sports-economics/sideline-strikes-and-strategies> accessed 1 December 2023.
[23] Fourteen venues were used for the 34 games in the 2022 competition. James Considine, 'Hurling Fields of 2022' (The Economics of Sport, 27 November 2022) <www.sportseconomics.org/sports-economics/hurling-fields-of-2022> accessed 12 April 2024.
[24] Mitchell N Berman, 'Let'em Play: A Study in the Jurisprudence of Sport' (2010) 99 *Georgetown Law Journal* 1325.
[25] This evidence can also be used to proxy player behaviour. There is no evidence that playing styles or strategy differ based on the scoreboard. This is not surprising given the frequency of changes in the ahead/behind/level state of games. On average, the games changed from one state to another nine times per game. When combined with the fluid nature of the game and fact that players can act as both attackers and defenders in a given passage of play, the suggestion that player behaviour explains the difference in frees is more difficult to sustain.

> clearly. If David Forde had stayed down, I would have had no hesitation in putting him off, but David jumped up and ran off.[26]

Cooney openly admits that the state of the scoreboard was a key factor in the decision. The player to which Cooney refers in the above quotation is Michael Duignan. Twenty-three years later, Duignan was the analyst in the broadcasting booth for the Munster hurling final between Limerick and Tipperary. Limerick was ten points behind when a Limerick player struck a Tipperary player in an almost identical fashion to what Duignan had done 23 years earlier. On the live broadcast, Duignan said, 'That's a red card in my view, all day long'.[27] Yet, the Limerick player only received a yellow card.[28]

Did the ten-point deficit play a role in the decision of the referee to award the Limerick player a yellow card rather than a red card? Unless the referee on that day makes a similar public statement to Jimmy Cooney's statement, we will never know. Even then, we may not be certain of the reasoning. While the referee is required to rationalise his or her decision in a post-match report, there may be a gap between reasoning at the time and the post-match rationalisation. This is where data and statistics can play a role. It makes it possible to examine general tendencies in decisions across all decision-makers. On average, does the state of the scoreboard make a difference? In 2022, referees awarded 976 free shots ('frees') in the 34 games of the senior inter-county hurling championship. Of these, 101 were awarded when the teams were level. Excluding these 101, the percentage of frees awarded to the team behind on the scoreboard at the time the free was awarded was just over 58 per cent, with the team behind on the scoreboard getting just under 42 per cent. This is a sizable 16 per cent difference. There was no difference in the award of the line officials with the awards being almost 50 per cent each to teams behind and ahead on the scoreboard.[29] The comparison would suggest that referees show some sympathy for the team behind on the scoreboard. It us suggested that they do so because of the type of decisions they must make and the interpretative freedom that they are given.

Let us consider the decisions they make. The decisions of a hurling referee cannot be reviewed or overturned during the game. This is laid down in *GAA Official Guide* Part 2, Rules of Control, 1.1 Powers of the Referee, which says, 'The Referee's decision on any question of fact (except as provided for in Rule 7.3 (aa) (1) (vi), Part 1, Official Guide) and in regard to time, shall be final.' Nor does the referee have to explain the decision to the players or the crowd at the time. It would have been difficult for the referee to verbally rationalise the 2021 Munster Final yellow card decision to those within ear shot. It is almost impossible to imagine the physical gestures he would have had to make to explain the award of a yellow, rather than red, card to those spectators at the venue or the audience watching the live broadcast.

This might suggest that hurling referees are like the third judge in Posner's umpireal analogy, where 'there are no balls and strikes until he calls them'.[30] It is true that there are no free shots until the hurling referee calls them, but the reverse is not true. The referee may deem that there is a breach of the rules of fair or foul play but may decide not to award a free shot

[26] Jim O'Sullivan, *Men in Black* (Sliabh Bán Productions 2002) 41.
[27] 'Aaron Gillane v Cathal Barrett Incident - Limerick v Tipperary - 2021 Hurling Championship' (25 March 2023) <www.youtube.com/watch?v=h4UZ4DegV6s> accessed 2 February 2024.
[28] Duignan regularly makes comments about referees making decisions based on non-rule factors.
[29] Data collected by authors by viewing every game on RTE Google Drive.
[30] Posner (n 3) 81.

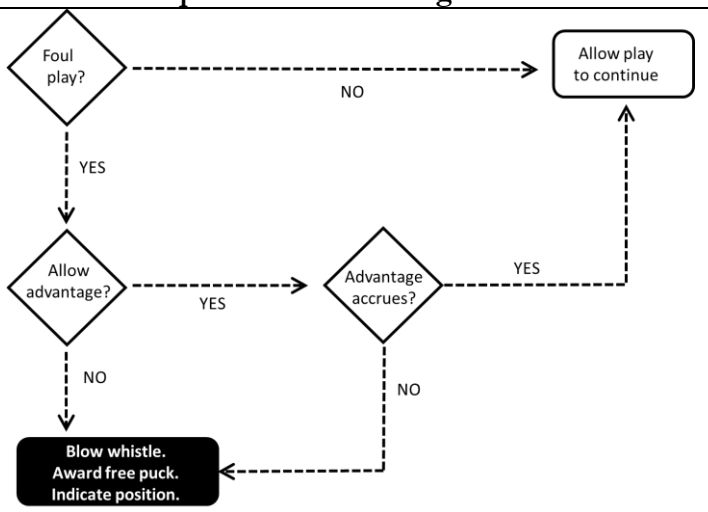
if he considers it to be to the advantage of the offended team. The 976 free shots awarded by the referees in 2022 are ones made pursuant to the *GAA Official Guide* Part 2, Rules of Control, 1.2 Duties of the Referee, (vii).[31] A schematic representation of this situation is presented in Figure 1. The wording is, 'To blow the whistle when a foul has been committed …'. The result is a free puck (also known as a free shot) to the opponent of the team that committed the foul.[32] Observation of the free puck is an indication that the referee has decided that 'a foul has been committed'. The decision to blow the whistle when a foul has been committed is a discretionary one. This is confirmed by Rule 4.34 for Technical Fouls and Rule 5.44 for Aggressive Fouls.

> When a [Technical/Aggressive] Foul is committed, the Referee may allow the play to continue if he considers it to be to the advantage of the offended team. He shall signal that advantage by raising an arm upright and shall allow the advantage to run by maintaining his arm in the upright position for up to five seconds after the foul or for less time if it becomes clear that no advantage has accrued. If he deems no advantage to have accrued, he may subsequently award a free for the foul from where it occurred …[33]

The only part of the schema in Figure 1 that can be confirmed by an outside observer is the outcome where the referee blows the whistle, awards a free shot, and indicates the position from which the free shot is to be taken. When the play is allowed to continue, it is not possible to say with certainty how the referee arrived at that decision. The referee might not have seen a potential foul, deemed the action a foul, or given advantage which he subsequently deemed accrued. Where the referee's hand is raised to indicate that advantage is being applied, it is not always seen by others, as the focus is usually directed to the location of the ball. It may be possible to infer that advantage was being played if the referee subsequently awards a free, because the shot is likely to be taken from where the ball was located a number of seconds earlier. However, it is only possible to say with certainty that the referee decided that a foul has been committed when the whistle is blown, and a free shot restarts the game.

[31] 'Gaelic Athletic Association Official Guide – Part 2' (18 March 2023) <https://www.gaa.ie/api/pdfs/image/upload/s0nddwy8nims22rad74a.pdf> accessed 26 March 2024.
[32] Occasionally, the referee will award an indirect free to the team in possession of the ball when he or she stops play for reasons other than foul play, e.g. an injury to a player. These indirect free pucks that do not involve breaches of the rules of fair and foul play are not the focus of this article.
[33] *GAA Official Guide* (n 31) 33.

Figure 1: Decision Sequence for Awarding a Free Shot for Foul Play



The interpretative freedom of a hurling referee is greater than the adjudicators in many sports. A referee's decision to award, or not award, a free shot cannot be reviewed and overturned within the game.[34] By contrast, some of the decisions made by other sports officials are reviewable immediately after the decision. American football is a sport where teams are allowed to force a review of a limited number of decisions by throwing a challenge flag and there are also automatic reviews of other decisions, such as turnovers or touchdown scores. Most sports have some form of review system that can be initiated by a team or other officials during the game, e.g. cricket, rugby union, and soccer. It raises the issue as to how hurling referees are constrained in their decision-making.

External and Internal Constraints on Hurling Referees

Richard Posner is described as the 'leading proponent of the economic theory of judicial behaviour'.[35] A common theme in his work is the separation of the 'demand and supply' decisions in the labour market, a useful cognitive scaffold for our purposes. Posner argues that those on the buying or 'demand' side of the labour market have 'dual goals that are in tension'; they want to hire 'judges who will enforce the legal norms … free from political interference by the appointing authorities'[36] but 'the appointing authorities want the judges to tilt in favor of the political goals of the Administration'.[37] Sporting bodies are no different. Basketball referees who seem to favour the team behind on the scoreboard are said to have a profitability bias.[38] The closer the game, the more likely TV viewers will stay tuned in. The more competitive the competition, the more likely fans are to buy tickets. In the labour market, those who sell access to sporting competitions are more likely to employ workers that improve the product. A bias by hurling referees that encourages more competition within games could be seen as a revenue bias for the non-profit GAA organisation. Following this line of logic, referees that display a bias towards the team behind on the scoreboard are

[34] Hurling referees also escape the official public reviews of their decisions by the governing bodies in the aftermath of games, e.g. Major League Basketball publishes *Last Two Minute Reports* where all calls and non-calls made by the officials within the last two minutes of a game are officially evaluated.
[35] Barry (n 16) 92.
[36] Posner (n 3) 57.
[37] ibid 58.
[38] Joseph Price, Marc Remer and Daniel F Stone, 'Subperfect Game: Profitable Biases of NBA Referees' (2012) 21 *Journal of Economics & Management Strategy* 1.

more likely to be selected. Of the 14 referees who took charge of a game in 2022, seven were selected for more than two games and all seven awarded more free shots to the team behind on the scoreboard. Four referees were selected for two games and three of these displayed a similar pattern in awarding more free shots to the team trailing.[39]

Tenure or longer appointments can reduce the incentives for adjudicators to tilt in favour of those doing the hiring. Hurling referees do not enjoy tenure as it is commonly understood. The referee for each inter-county game is selected from an annual panel of ten to fifteen referees. The panel is selected by the governing body's National Referee Development Committee. The shorter the tenure, the more likely there will be a pro-competitive bias. This is offset by the desire to hire referees who will enforce the rules. Inter-county referees are deemed to be the best referees. The pathway for progression to the national panel requires the individuals to have a pre-requisite number of games at a range of regional levels of the game. National referees will have previously taken control of inter-county games at the provincial level. Provincial referees will have previously taken control of club games within their county.[40] Referees are also subject to annual assessments of their knowledge of the rules and their level of physical fitness. The panel is supported by the provision of seminars and review meetings. At an individual level, each referee has a mentor and an advisor who provides feedback on the referee's performance in each game.

Inter-county hurling referees are reimbursed for items such as food and travel, but they are neither salaried employees nor piece-rate workers paid per game. This does not invalidate the application of Posner's model to GAA officials, but it does change the income-leisure trade-off to from a direct to an indirect one. Moreover, Posner has changed the emphasis in his work over time. It is 30 years since Posner's seminal theoretical contribution that examined the decision of judges to supply labour using the judicial utility function that included the subjective values related to work, leisure, and reputation.[41] Originally, Posner placed the emphasis on the work and leisure variables. The reputation variable was to become more important later. Halfway through the intervening period, in 2008, he published *How Judges Think* where he placed greater emphasis on the psychology of judging than in his earlier work: '[i]t is the stress I lay on psychology that has led me to entitle the book *How Judges Think* rather than *Judicial Behavior*.'[42] In the book, he claims that one of the difficulties with the economic theory of judicial behaviour 'is neglect of psychological factors'.[43] The result is a greater focus on internal constraints involved in judicial decision-making. This is best illustrated where he notes that 'money is not the principal motivator'[44] to become a judge and that there are other tastes that explain the decision. He includes tastes for public service, power, or leisure, but draws attention to

> … a taste for being a *good* judge. This is an intrinsic satisfaction but it is validated and reinforced by a judge's reputation in the judicial and broader community, and sometimes in other communities as well, such as the academic and political communities, and in the media.[45]

[39] See (n 29).
[40] The referee is a club member. Conscious of the perception of bias, referees do not take control of games involving their club or county.
[41] Richard A Posner, 'What Do Judges and Justices Maximize? (The Same Thing Everybody Else Foes)' (1993) 3 *Supreme Court Economic Review* 1.
[42] Posner (n 3) 7.
[43] Posner (n 3) 37.
[44] ibid 59.
[45] ibid 60.

Public opinion, shaped by the media, plays a much greater role in establishing the reputation of sports officials, as Krotoszynski contends:

> from the perspective of the citizenry, the outcome of the Superbowl is a good deal more important than the outcome of the average Supreme Court case. The citizenry is likely to demand as much rationality (if not more) from the referees of the National Football League (the "NFL") than from the Justices of the Supreme Court of the United States.[46]

While no decision by the hurling referee can be reviewed or overturned during the game, the spectators are likely to voice their opinions at the time.

Hurling Referees as Legal Pragmatists

Posner's emphasis on psychology in *How Judges Think* leads him to Bayesian decision theory as 'a way of systematizing the elementary point that preconceptions play a role in rational thought'.[47] It also allows him to combine economics and psychology. In Bayesian theory, preconceptions are priors that are adjusted according to the likelihood of the evidence. The apparatus, comprising of nature and nurture, that produces these preconceptions is unique to the individual.

> The apparatus not only differs among individuals but can be altered by experience, which obviously varies from individual to individual. In other words, people see (literally and figuratively) things differently, and the way in which they see things changes in response to change in the environment.[48]

This is Posner's umpire as the pragmatic trial judge - the umpire who calls them as he sees them. It is why Posner italicised the '*he*' in his umpireal analogy. His decisions cannot but be individual and subjective. Bayesian theory allows Posner a more systematic way of explaining the psychological elements that are part of the utility function in his original economics approach. It brought more consistency between the elements of the utility function that formed part of his economic theory of judicial behaviour.

The economic theory of decision-making has another feature that aligns it with judicial pragmatism. It relates future consequences to current actions and decisions:

> Cost-benefit analysis – the economist's method of determining what course of action to follow – is simply a disciplined way of weighting the consequence of alternative courses and choosing the one that is likely to produce the largest surplus of good over bad consequences. … Pragmaticism is a better description of judicial behavior in these areas than economics only because judges are more likely to recognise themselves in a description of a pragmatist than in the

[46] Ronald J Krotoszynski Jr, 'The New Legal Process: Games People Play and the Quest for Legitimate Judicial Decision Making' (1999) 77(3) *Washington University Law Quarterly* 993.
[47] Posner (n 3) 67.
[48] ibid 68.

> description of an economist … legal pragmatism incorporates economic analysis of the law as one of its methods … it incorporates legalism as another.[49]

When Jimmy Cooney decided against sending Michael Duignan off the pitch, he did so because of the consequences. He said that he was making trouble for himself and he expected Offaly to get negative in their hurling. He expected these consequences because Offaly was nine points in arrears. If they were to find themselves nine points behind and a player down, then they might decide that they could no longer win the game and, as a result, decide to take their disappointment out on their opponents. The inference is that if Offaly was ahead on the scoreboard, then Cooney would have sent off Duignan. It is our argument that hurling referees display a bias towards the team behind on the scoreboard because they consider the consequences of their decisions, and it is this that renders them analogous to legal pragmatists. While the referees are primarily concerned with the application of rules to past events, their interpretive freedom allows them to take future consequences into account.

Why should an adjudicator care about the consequences of his or her decision? The quality of the evidence[50] and the cost of errors. It is captured in Blackstone's ratio that it is better to let ten guilty go free than to convict one innocent. The burden of proof is related to the cost of an error. The cost of errors approach was popularised in antitrust by Judge Frank Easterbrook; for the purposes of our arguments, it is better to think of antitrust as competition law for business competitors.[51] He contrasts court errors from condemning beneficial business practices, on one hand, and permitting deleterious business practices, on the other. He argues that the purpose of the law should be to minimise the cost of these errors and this would be best achieved by selecting the appropriate presumptions about business behaviour. In the four decades since Easterbrook's original work, antitrust has evolved, and been aided by the work of scholars like Posner. The current approach is a dynamic version of what Easterbrook advocated. It is known as a sliding scale approach where the stronger the initial presumption, the stronger the rebuttal evidence required. The approach is consistent with Bayesian decision theory where evidence updates the initial priors.[52]

The cost of errors approach could offer an explanation as to why referees award more frees to the team that are behind on the scoreboard. Consider an All-Ireland Hurling Championship semi-final with seconds remaining and a point between the teams. The consequences of a referee not giving a free shot to a team that is losing are greater than not giving a call to the team ahead on the scoreboard. Where a referee is unsure of what their own eyes have witnessed, they might decide to err on the side with the smaller cost of an error. It could form part of the referees' cognitive toolkit in the form of a rule of thumb. It could result in an unconscious cognitive bias. In that case, it could explain the evidence from 2022 where teams behind on the scoreboard were awarded more frees.

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[49] ibid 245-6.

[50] We use the term "quality of evidence" to avoid the debate on the distinction between risk and uncertainty. It is frequently referred to as 'decision-making under uncertainty.'

[51] Frank H Easterbrook, 'Limits of Antitrust' (1984) 63(1) *Texas Law Rev*iew 1. Easterbrook was a colleague of Posner's on the Seventh Circuit and also a proponent of the economic approach to the law.

[52] A widely used illustrative example concerns a nighttime hit-and-run scenario in a city where there are 15 blue cabs and 85 green cabs. An eyewitness reports seeing a blue cab involved in the incident and identification of correct colours at nighttime is 80% correct. Bayesian theory says one should update the initial probability (15%) of it being a blue cab with the evidence. The resulting probability is 41%. It is much higher than the initial 15% but it does not pass the balance of probabilities threshold. Strong priors (or base rates) require strong evidence to rebut.

If the hypothetical example from the last paragraph is extended then we could examine the component parts to see if the cost of errors approach is consistent with the data in other ways. It is possible to compare the evidence from knockout games, like All-Ireland semi-finals, with those of round-robin games in the provincial championship. It is possible to compare the evidence from the half of the game closer to the end (second half) with the first half of games. It is possible to compare the evidence when the score is close, with the evidence from games where there is a large margin between the teams.

Removing frees awarded when the teams were level, the difference between free shot awards to the teams behind compared to the teams ahead is 16 per cent for all games in 2022. This 16 per cent can be used for comparison purposes. The difference increases to 17 per cent for the nine knockout games and reduces to 14 per cent for the 25 round-robin games.[53] This could support the cost of errors explanation.

The clearest evidence against the cost of errors explanation comes from examining the decisions when there are small and large margins between the teams. All else equal, the cost of an error is larger when the margin between the teams is smaller. The evidence shows that the team behind on the scoreboard receives more frees when the gap was larger rather than smaller: it is 18 per cent for games where the margin is greater than six points (two goals) and only six per cent when the margin is one point. The latter suggests that any referee bias is towards keeping the game competitive rather than deciding the outcome.

A comparison of the difference in awards between the first and second half of games seems to go against the cost of errors explanation. The difference is 18 per cent for the first half of games and 14 per cent for the second half of games. However, the percentage of frees awarded to the team behind is higher in the second half than it is the first half. The apparent contradiction comes from the fact that the number of frees awarded when teams are level is much lower in the second half (because teams are level less often in the second half).

Concluding Comments

Referees in hurling have the interpretative freedom of Posner's appellate court judge: there is no free shot until they say so. However, they face significant internal and external constraints. The most significant external constraint is their annual appointment to the referee panel and, within the year, their appointment to particular games. A large proportion of the revenue of the governing body comes from gate receipts, where patrons pay to view a contest between competitors. Referees who systematically err in ways that decrease competitiveness are not likely to be (re)appointed. Virtually all the referees in our dataset award more frees to the team behind on the scoreboard, and all the referees appointed to the latter season knockout games do so.

The appellate court analogy fails in that individual judges do not create the rules by their decisions. Or more correctly, our evidence cannot be used to examine or support such an analogy. Our evidence can provide some support for the view of the hurling referee as a pragmatist. A concern for the consequences of a decision involves pragmatic adjudication. Jimmy Cooney's admission that he examined the scoreboard, and the potential consequences of an alternative course of action, before deciding on what to do in 1998 is a rare example of a public explanation of an individual decision. The written post-game referee reports are

[53] See (n 29).

concise in their justifications for a red or yellow card (and provide no rationalisation of free shot awards). Most of the split-second decisions that referees make are probably guided by a rule of thumb that the referees should err on the side of the team behind on the scoreboard. The psychology that Posner stressed in *How Judges Think* might label the correlation between decisions and non-rule factors a bias. It can also be explained or justified with the economic theory of judicial behaviour, more readily associated with Posner. The cost of errors is larger for the team behind on the scoreboard. This could inform the choice of disposition that referees bring to their decisions – decisions that are made in seconds or fractions of seconds.

Whatever the explanation, hurling referees award 16 per cent more free shots to the team behind on the scoreboard. It seems that they display a compensating tendency for a particular class of contenders (those behind on the scoreboard) rather than particular contenders. Where this is the case, Posner would argue that the umpire-as-legalist-judge-analogy breaks down. By contrast, the free ground shot awards of the line officials have no correlation with the scoreboard. Line officials operate with less discretion and interpretative freedom than referees, or even baseball umpires. Perhaps, Chief Justice Roberts should have said, 'Judges are like line officials in hurling'.