NUDGES FOR JUDGES: THE EFFECTS OF THE "SIX-MONTH" LIST ON FEDERAL CIVIL JUSTICE

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May 2021

ABSTRACT

Recent court reform efforts in the United States have focused on speeding up what is perceived to be a slow and burdensome federal civil justice system. But how is speed best achieved, and at what cost to other goals of the civil justice system? I study a Congressionally-enacted reform known as the "six-month list," which uses social pressure to incentivize federal judges to decide cases more quickly. After constructing an original dataset of nearly 500,000 federal district court motions—representing the approximate universe of summary judgment motions in federal civil cases for the period 2005-2014—I exploit quasi-random variation in exposure to the six-month list in order to answer two related questions. First, does the six-month list accomplish its ostensible goal of promoting speedier adjudications? And second, how does the six-month list affect the quality of civil adjudications? My results indicate that the six-month list does indeed improve speed; the summary judgment motions that are most exposed to the six-month list are resolved almost a full

*Yale Law School: jonathan.petkun@yale.edu. PRELIMINARY DRAFT. I am grateful to my thesis advisors, Jon Gruber, Heidi Williams, and Amy Finkelstein, for their feedback and guidance. I am also extremely grateful to faculty mentors at Yale, especially Ian Ayres, Christine Jolls, Harold Koh, Zach Liscow, and Judith Resnik. I thank audiences at the MIT public finance lunch, the Notre Dame Law & Economics Workshop, the Conference on Empirical Legal Studies, the Conference on Data Science and Law at ETH Zurich, the Chicagoland Junior Scholars Workshop, the annual meeting of the Canadian Law and Economics Association, and the Economic Analysis of Litigation Conference at Bucerius Law School. This draft has benefited enormously from conversations with Mara Revkin, Michael Frakes, Jediphi Cabal, Paul Goldsmith-Pinkham, Isaac Sorkin, Eric Zwick, Ray Kluender, Ben Marx, Otis Reid, Christina Patterson, Michael Stepner, Dan Waldinger, Chishio Furukawa, Dane Thorley, Roseanna Sommers, Molly Offer-Westort, Joe Schottenfeld, Jamie Durling, Diane de Gramont, Jenessa Calvo-Friedman, Ashraf Ahmed, Alyssa Peterson, Meghan Brooks, Judges Cornelia T.L. Pillard and Jeffrey A. Meyer, and Chief Judge Sri Srinivasan. I am especially grateful to Jonah Gelbach, who generously shared the raw district court dockets that form the basis of my empirical analysis.

month (15%) faster than those that are least exposed, and overall case durations are similarly impacted. I also find considerable heterogeneity across judges, with young judges, minority judges, and women judges being among the most responsive to the incentives created by the six-month list. Speedier adjudications notwithstanding, I find only mixed evidence of effects on the quality of adjudications. Finally, estimates from a bunching exercise suggest that the six-month list reduces total motion disposition time by approximately 4% relative to a counterfactual scenario in which the six-month list is eliminated. My results suggest that—at least among federal judges—social pressure can be a key driver of workplace behavior. I interpret these results as consistent with a model of judicial behavior that combines elements of career concerns, procrastination, and multitasking. I conclude with a discussion of the normative implications, including a brief discussion of how the six-month list could be redesigned to capitalize on its best features while minimizing the potential for unintended consequences.

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INTRODUCTION

Recent court reform efforts in the United States have focused on speeding up what is perceived to be a slow and burdensome federal civil justice system. But how is speed best achieved, and at what cost to other goals of the civil justice system? This paper offers one of the first empirical analyses of a civil justice reform initiative, known colloquially as the "six-month list," that uses social sanctions to incentivize judges to prioritize faster adjudications. This paper addresses two primary questions. First, are social sanctions an effective means of promoting "judicial efficiency?"[1] And second, when court reform efforts put speed first, how, if at all, does that affect the *quality* of adjudications?[2]

Article III federal judges enjoy life tenure and protected salaries, but that does not mean they are above reproach. In March 2017 then Chief Judge Louis Guirola of the United States District Court for the Southern District of Mississippi took the extraordinary step of temporarily relieving a fellow district judge from taking on new civil cases. Citing a backlog of more than fifty motions pending six months or more and twenty-four cases pending three years or more, the Chief Judge ordered that all new cases initially slated for his lagging colleague be reassigned to one of the court's senior judges.[3] This came after repeated admonishments from the U.S. Court of Appeals for the Fifth Circuit.[4] If the federal district judge in Mississippi represents one extreme, then at the other extreme we might find one California superior court judge who, in a 2009 employment discrimination case,

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[1]Throughout the article I use the term "judicial efficiency" to describe the narrow goal of reducing case and motion disposition times. *See* A richer definition of judicial efficiency might take into account many other facets of judicial practice and output. Indeed, I attempt to address some of these other facets with my analysis of motion outcomes in Section V.B, *infra*.

[2]Throughout the article I use the term "judicial efficiency" to describe the narrow goal of reducing case and motion disposition times. Although richer notion of judicial efficiency might combine considerations of speed and quality, it is somewhat standard to define judicial efficiency in terms of speed. *See, e.g.*, Robert K. Christensen & John Szmer, *Examining the efficiency of the U.S. courts of appeals: Pathologies and prescriptions*, 32 INT'L REV. L. & ECON. 30 (2012).

[3]Jimmie E. Gates, *Judge Wingate still barred from handling new cases*, THE CLARION-LEDGER, Oct. 17, 2017, available at https://www.clarionledger.com/story/news/2017/10/17/judge-wingate-still-barred-handling-new-cases/771901001/.

[4]R.L. Nave, *Justice Delayed?*, JACKSON FREE PRESS, July 17, 2013, available at http://www.jacksonfreepress.com/news/2013/jul/17/justice-delayed/.

granted the defendant's 1,056-page motion for summary judgment without, apparently, reading it.[5]

The above anecdotes illustrate two intuitions that most of us share about our justice system, both of which are so obvious as to typically go unstated. First, justice should be speedy. And second, if the process is *too* speedy, we begin to worry whether justice has truly been delivered.[6] These examples also serve as a reminder that judges—especially U.S. federal judges—are accustomed to their independence, and they are not easily incentivized.

Policymakers wishing to promote efficiency and reduce delay in the civil justice system have a number of options before them. Historically, some reforms been aimed at streamlining civil process, often by changing the rules of procedure (and thus, both the incentives and constraints) facing parties and their attorneys. The much-studied area of discovery reform fits within this broad category.[7]. Other reforms have sought to directly reduce civil caseloads, either by incentivizing settlement,[8] granting judges enhanced

[5]Nazir v. United Airlines, Inc., 178 Cal. App. 4th 243, 289 (Cal. Ct. App. 2009) ("[W]hat apparently happened," according to the majority opinion of a panel of California's First District Court of Appeal, "is that the trial court did not read all the papers." Despite reversal, the appellate court seemed to show a degree of sympathy for their lower-court colleague: "While not reading the papers cannot be condoned, it can perhaps be understood, as we hesitate to speculate how long it would take a trial court to meaningfully digest over 2,200 pages of separate statements.")

[6]Hurried adjudications are common if not especially disturbing in the criminal context. See, e.g., ODonnell v. Harris Cty., 251 F. Supp. 3d 1052, 1092 & n.33 (S.D. Tex. 2017) (granting preliminary injunction to class of plaintiffs who alleged that county's practice of detaining indigent arrestees as a "mechanical" result of their inability to pay bail violated the Due Process and Equal Protection clauses of the Fourteenth Amendment, and observing that bail hearings before county judges typically lasted between one and two minutes per arrestee), *aff'd in part, rev'd in part*, 892 F.3d 147 (5th Cir. 2018); videos of actual bail hearings were subsequently published by the New York Times, Eli Rosenberg, *Judge in Houston Strikes Down Harris County's Bail System*, N.Y. TIMES, Apr. 29, 2017, available at https://www.nytimes.com/2017/04/29/us/judge-strikes-down-harris-county-bail-system.html.

[7]*See, e.g.*, Carl Tobias, *Discovery Reform Redux*, 31 CONN. L. REV. 1433 (1999); Jonah B. Gelbach & Bruce H. Kobayashi, *The Law and Economics of Proportionality in Discovery*, 50 GA. L. REV. 1093 (2016).

[8]*See, e.g.*, Federal Rules of Civil Procedure, 97 F.R.D. 165 (April 1983) (amending FED. R. CIV. P. 16).

powers to dispose of cases early in their life cycles,[9] or by erecting barriers to filing in the first instance.[10]

Alternatively—and most relevant for this paper—policymakers can encourage judges to engage in more active case management. "Judicial case management" describes a range of activities by which judges and court administrators act as pretrial managers, shepherding a case through the stages of litigation and, at times, actively encouraging settlement.[11] Case management relies on many of the same tools and powers entailed by the other two categories,[12] but what distinguishes it is that it puts the judge in the driver's seat with singular responsibility for promoting speed and reducing delay.[13] The managerial movement is also distinctive for its reliance on and faith in court statistics as a tool for understanding and improving the administration of justice.[14]

The debate over managerial judging has never entirely dissipated, but today, judicial case management practices are well entrenched in the federal civil justice system, and few policies are more emblematic of that entrenchment than the "six-month list." Since the early 1990s, federal law has directed the Administrative Office (AO) of the U.S. Courts to prepare a semiannual list disclosing, for each U.S. District Judge or U.S. Magistrate

[9]E.g., heightened pleading standards under Bell Atlantic Corp. v. Twombly, 550 U.S. 544 (2007) and Ashcroft v. Iqbal, 556 U.S. 662 (2009).

[10]*See, e.g.*, Prison Litigation Reform Act, Pub. L. No. 104-134, tit. 8, §801-810, 110 Stat. 1321, 1321- 66 to -77 (1996) (codified as amended at 11 U.S.C. §523 (2012); 18 U.S.C. §3624, 3626 (2012); 28 U.S.C. §1346, 1915, 1915A, 1932 (2012); 42 U.S.C. §1997a-c, e-f, h (2012)).

[11]The Civil Justice Reform Act of 1990 defined four "principles" of effective case management: (1) the differential treatment and management of cases according to their "needs, complexity, duration, and probable litigation careers," (2) "early involvement of a judicial officer" in case planning, scheduling, and discovery, (3) regular communication between the judge and attorneys during the pretrial process, and (4) utilization of alternative dispute resolution programs "in appropriate cases."

[12]*E.g.,* pre-trial conferences and scheduling orders under FED.R. CIV. P. 16.

[13]*See* Robert F. Peckham, *A Judicial Response to the Cost of Litigation: Case Management, Two-Stage Discovery Planning and Alternative Dispute Resolution*, 37 RUTGERS L. REV. 253, 253–54 n.3 (1985) (defining "case management" as "entail[ing] two basic phases of pretrial planning. In the first phase, the pretrial activity is planned . . . The second phase . . . involves planning the trial itself . . . As a case manager, then, the trial judge becomes an active facilitator of the lawsuit, shaping its structure and shepherding its expeditious completion."); *see also* Judith Resnik, *Managerial Judges and Court Delay: The Unproven Assumptions*, 23 Judges J. 8 (1984).

[14]William H. Speck, *Statistics for the United States Courts: An Indispensable Tool for Judicial Management*, 38 A.B.A. J. 936 (1952).

Judge, *inter alia*, the quantity and identity of motions that have been pending before the judge for six months or longer.[15] Published on March 31st and September 30th of each year, the "six-month list" leverages social and reputational incentives in order to nudge judges into adjudicating motions and cases more quickly.

My paper presents an empirical analysis of two related questions. First, does the six-month list's scheme of social sanctions accomplish its ostensible goal of expediting civil adjudications? And second, does the six-month list have any effect on the *quality* of adjudications? In order to answer these questions, I combine an original large-N dataset of federal district court dockets with a novel identification strategy based on quasi-random variation in exposure to the six-month list. I find that the six-month list does indeed improve speed; the summary judgment motions that are most exposed to the six-month list are resolved almost a full month (15%) faster than those that are least exposed, and overall case durations are similarly impacted. I also find considerable heterogeneity across judges, with young, minority, and women judges being among the most responsive to the incentives created by the six-month list. Speedier adjudications notwithstanding, I find only mixed evidence of effects on the quality of adjudications. While I do find modest effects on motion- and case-level outcomes—summary judgment motions that are most exposed to the six-month list are slightly less likely to be granted, and conditional on being appealed, judgments following motions that are more exposed to the six-month list are slightly more likely to be reversed—these results are only marginally significant and not robust to all specifications. Finally, estimates from a bunching exercise suggest that the six-month list reduces total motion disposition time by approximately 4% relative to a counterfactual scenario in which the six-month list is eliminated. My results suggest that—at least among federal judges—social pressure can be an effective substitute for monetary incentives. I interpret these results as consistent with an original model of judicial behavior that combines elements of career concerns, procrastination, and multitasking.

This paper contributes to several distinct literatures across multiple disciplines. First, this paper contributes to extensive literatures on judicial management, judicial efficiency, and managerial judging. Advocates of judicial management argue that it is essential for allocating scarce judicial

[15] 28 U.S.C. §476. For more details, *see infra* Section I.

resources and ensuring the speedy administration of justice.[16] It is also claimed to improve judicial transparency and accountability by spurring the collection and dissemination of court data. Critics argues that these benefits may be outweighed by significant negative externalities.[17] These include the erosion of traditional due process safeguards; a vast expansion in judicial discretion, and with it, the potential for abuse of power; and, the undermining of judicial impartiality in exchange for privacy and informality outside of courtrooms.[18] At the core of the debate over judicial management is a question of tradeoffs. Specifically, when judges adopt an active role in case management, does enhanced efficiency come at the cost of procedural fairness? Several scholars have attempted to address similar questions through historical case studies[19] and limited descriptive statistics,

[16]Robert F. Peckham, *The Federal Judge as a Case Manager: The New Role in Guiding a Case from Filing to Disposition*, 69 CALIF. L. REV. 770 (1981); Peckham, *supra* note 13; Donald P. Lay, *A Blueprint for Judicial Management*, 17 CREIGHTON L. REV. 1047 (1983); Paul R. J. Connolly, *Why We Do Need Managerial Judges*, 23 JUDGES J. 34 (1984).

[17]Judith Resnik, *Managerial Judges*, 96 HARV. L. REV. 374, 376–77 (1982); *see also* Owen M. Fiss, *Out of Eden*, 94 YALE L. J. 1669, 1672–73 (1985) (arguing that "[a]djudication is more likely to do justice than conversation, mediation, arbitration, settlement, rent-a-judge, mini-trials, community moots or any other contrivance of ADR.").

[18]Resnik, *supra* note 17 at 424–431.

[19]*See, e.g.*, Robert Post, *Judicial Management and Judicial Disinterest: The Achievements and Perils of Chief Justice William Howard Taft*, 1998 J. SUP. CT. HIST. 50 (1998).

[20] but my paper is among the first to empirically analyze the causal effects of case management practices on the speed[21] and quality of civil justice.[22]

The judicial management literature is populated primarily with legal scholars, but broader questions of judicial efficiency appear throughout the social sciences. It is well documented that the quality and bureaucratic efficiency of public institutions matters for economic growth and development, and courts are no exception. Faster courts reduce transactions costs associated with enforcing contracts and protecting personal and property rights,[23] all of which are key ingredients to economic development. Moreover, the benefits of speedy adjudications also redound to the litigants themselves. Lengthy administrative and judicial delays can have real and lasting consequences for litigants, who may have to put aspects of their lives on hold while they await resolution of a pending dispute.[24] In the public benefits context, for example, longer processing times for SSDI applications are associated with lower levels of employment and reduced earnings for mul-

[20] *See, e.g.*, Alvin B. Rubin, *Bureaucratization of the Federal Courts: The Tension between Justice and Efficiency*, 55 NOTRE DAME LAW. 648 (1980). The CJRA itself spurred a small number of descriptive analyses. *See* Patrick Johnston, *Civil Justice Reform: Juggling Between Politics and Perfection*, 62 FORDHAM L. REV. 833 (1994) (analyzing the requirements of the CJRA shortly after it went into effect); R. Lawrence Dessem, *Judicial Reporting under the Civil Justice Reform Act: Look, Mom, No Cases*, 54 U. PITT. L. REV. 687 (1993) (same); INST. FOR THE ADVANCEMENT OF THE AM. LEGAL SYS., CIVIL CASE PROCESSING IN THE FEDERAL DISTRICT COURTS: A 21ST CENTURY ANALYSIS 1, 8 (2009) (finding "circumstantial evidence" that the CJRA was effective from a sample of 7,700 federal civil cases). The RAND Corporation also conducted multiple studies of the CJRA, but RAND did not assess the effects of six-month list. *See* JAMES S. KAKALIK ET AL., RAND INSTITUTE FOR CIVIL JUTICE, IMPLEMENTATION OF THE CIVIL JUSTICE REFORM ACT IN PILOT AND COMPARISON DISTRICTS (1996); JAMES S. KAKALIK ET AL., RAND INSTITUTE FOR CIVIL JUSTICE, AN EVALUATION OF JUDICIAL CASE MANAGEMENT UNDER THE CIVIL JUSTICE REFORM ACT (1996).

[21] *See* Judith Resnik, *The Assumptions Remain*, 23 Judges J. 37, 38 (1984) (lamenting the paucity of evidence on the relationship between judicial case management and delay).

[22] *But see* Miguel F. P. de Figueiredo, Alexandra D. Lahav Peter Siegelman, *The Six-Month List and the Unintended Consequences of Judicial Accountability*, 105 CORNELL L. REV. 363 (2020), *infra* at 9–10.

[23] Daron Acemoglu & Simon Johnson, *Unbundling Institutions*, 113 J. Pol. Econ. 949 (2005); Sujata Visaria, *Legal Reform and Loan Repayment: The Microeconomic Impact of Debt Recovery Tribunals in India*, 1 Am.Econ. J.: Applied Econ. 59 (2009); Matthieu Chemin, *Does Court Speed Shape Economic Activity? Evidence from a Court Reform in India*, 28 J. L. Econ. & Org. 460 (2012).

[24] Paul R.J. Connolly Saundra Smith, *The Litigant's Perspective on Delay: Waiting for the Dough*, 8 JUST. SYS. J. 271, 276 (1983).

tiple years *after* the initial application.[25] Similarly, evidence suggests that corporate litigants are willing to pay for speedier judicial procedures.[26]

This paper also relates to a growing empirical literature analyzing the economics of litigation.[27] Much of this literature focuses on the ways in which court procedures shape the speed and outcomes of justice systems in a variety of jurisdictions.[28] Other papers focus on the allocation of judicial resources[29] and the impacts of heavy caseloads on the work of appellate courts.[30]Closely related is a growing literature—including both theoretical and empirical contributions—analyzing the individual behaviors of judges and the group norms and practices of judging.[31] Building off of these analyses, I contribute what is, to my knowledge, among the first models of judi-

[25]David H. Autor, Nicole Maestas, Kathleen J. Mullen & Alexander Strand, *Does Delay Cause Decay? The Effect of Administrative Decision Time on the Labor Force Participation and Earnings of Disability Applicants* (Nat'l Bureau of Econ. Research, Working Paper No. 20840, 2015) (finding that a one standard deviation (2.1 month) increase in initial processing time reduces long-run employment by 3.5% and long-run annual earnings by 5.1%).

[26]Florence Kondylis & Mattea Stein, *The Speed of Justice* 5-6 (Paris Sch. of Econ., Working Paper No. 2018-13, 2018).

[27]*See* Kathryn E. Spier, *Litigation*, in HANDBOOK OF LAW AND ECONOMICS (A.M. Polinsky & S. Shavell eds., 2007).

[28]*See, e.g.*, Allesandro Melcarne, Giovanni B. Ramello & Paige Marta Skiba, The Role of Adjudication Procedures in Judicial Timeliness: Quasi-Experimental Evidence (November 25, 2020) (unpublished manuscript) (exploiting variation in the procedures accorded claims above and below a 1,100 threshold in Italian small claims courts and finding that claims subject to simplified procedures are decided a month faster than other claims), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3195922; Libor Dusek & Josef Montag, The Effects of a Simplified Criminal Procedure: Evidence from One Million Czech Cases (March 27, 2017) (unpublished manuscript), https://ssrn.com/abstract=2941496 (exploiting geographic variation in the adoption of simplified criminal procedures and finder that simplified procedures expedited the pretrial phase of criminal prosecutions and increased the probability that defendants are charged).

[29]Crystal S. Yang, *Resource Constraints and the Criminal Justice System: Evidence from Judicial Vacancies*, 8 AM. ECON. J.: ECON. POL'Y 289 (2016).

[30]Bert I. Huang, *Lightened Scrutiny*, 124 HARV. L. REV. 1109 (2011) (finding that federal circuit courts responded to a temporary influx of immigration appeals by issuing fewer reversals); Shay Lavie, *Appellate Courts and Caseload Pressure*, 27 STAN. L. & Pol'y Rev. 57 (2016) (analyzing the same surge in immigration appeals and finding heterogeneous effects across circuits).

[31]RICHARD A. POSNER, HOW JUDGES THINK 57 (2010); LEE EPSTEIN, WILLIAM M. LANDES, & RICHARD A. POSNER, THE BEHAVIOR OF FEDERAL JUDGES: A THEORETICAL AND EMPIRICAL STUDY OF RATIONAL CHOICE (2013), Lee Epstein, William M. Landes, & Richard A. Posner, *Why (And When) Judges Dissent: A Theoretical and Empirical Analysis*, 3 J.

cial behavior that combines elements of career concerns, multi-tasking, and procrastination.

My analysis is rooted in the federal judiciary, but the six-month list may hold lessons for personnel management more generally, especially in the public sector. At least two features of public sector work are relatively distinctive. First, bureaucrats are often granted wide discretion to perform tasks that are only broadly defined. From border patrol agents to scientists at the FDA, bureaucrats enjoy a great deal of control over what they do and how they do it. Second, bureaucrats can be relatively immune from some of the most common workplace incentives. Relative to private sector employers, public sector managers enjoy a more limited array of tools for incentivizing worker behavior. Public sector salaries and benefits are often fixed by lawmakers or regulators,[32] and tenure rules and employee protections often prevent manager from flexibly promoting, terminating, or reassigning personnel. Thus, the federal bench, with its lifetime tenure and fixed salaries[33], offers an ideal laboratory for studying the effectiveness of non-monetary incentives in a public sector work environment. Indeed, this paper contributes to a small but growing body of evidence demonstrating that non-monetary social incentives can, at least under certain circumstances, be used as an effective substitute for more traditional workplace incentives.[34]

Long ignored by empirical researchers, the CJRA—and especially the six-month list—has received renewed attention in recent years. In addition to my paper, the six-month list is also the focus of a recent article by Miguel de Figueiredo, Alexandra Lahav, and Peter Siegelman.[35] Their paper does a great deal to advance our understanding of the six-month list, and indeed, our papers address a handful of similar questions. For example,

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LEGAL ANALYSIS 101 (2011); Gilat Levy, *Careerist Judges and the Appeals Process*, 36 RAND J. ECON. 275 (2005).

[32] *But see* Scott Baker, *Should We Pay Federal Circuit Judges More*, 88 B.U. L. REV. 63, 98-105 (2008) (analyzing the effects of federal appellate judge salaries on judicial output by comparing judges according to their outside (i.e., non-judicial) financial opportunities).

[33] U.S. CONST. ART. III, §1.

[34] *See, e.g.*, Varun Gauri, Julian C. Jamison, Nina Mazar & Owen Ozier, *Motivating bureacrats through social recognition: External validity—A tale of two states*, 163 ORG. BEHAV. & HUM. DECISION PROCESSES 117 (2021); Nava Ashraf, Oriana Bandiera & Kelsey Jack, *No margain, no mission? A field experiment on incentives for public service delivery*, 120 J. Pub. Econ. 1 (2014); Inke Mathauer & Ingo Imhoff, *Health worker motivation in Africa: the role of non-financial incentives and human resource management tools*, 4 Hum. Resources for Health 24 (2006); for a review of the literature in social incentives on work, *see* Nava Ashraf & Oriana Bandiera, *Social Incentives in Organizations*, 10 Ann. Rev. Econ. 439 (2018).

[35] de Figueredo et al., *supra* note 22.

both our papers examine the effects of the six-month list on motion duration and substantive motion outcomes, and we both find evidence that motions are decided more quickly when they are more exposed to the list. We differ, however, in our methods of analysis, and we also reach slightly different our conclusions regarding the effects of the six-month list on motion outcomes. Compared to their hand-coded dataset of 758 summary judgment motions filed between August 1 and September 30, 2011, I construct an original dataset of more than 475,000 summary judgment motions—the approximate universe of summary judgment motions filed between 2005 and 2014—including more than 250,000 dispositions. From their smaller dataset they conclude that exposure to the six-month is associated with substantively different motion outcomes, including more defendant wins. Although I am able to replicate their finding with a basic linear probability model, I find that this and other outcome effects are not robust to a regression discontinuity design—a technique made possible by the scale and granularity of my data. This leads me to be somewhat more reserved in my conclusions regarding the effects of the six-month list on the quality of adjudications.

Relative to de Figueredo *et al.*, my paper also makes a number of original contributions. For example, using individual judge identifiers, I document a considerable amount of heterogeneity between judges—along dimensions including age, race, and gender—in their responsiveness to the six-month list. In addition, using a novel application of bunching estimators, I am able to compare actual motion dispositions against a counterfactual scenario in which the six-month list has been abandoned altogether in order to estimate the total time-savings generated by the six-month list.

This paper proceeds as follows. Section I provides some background on the six-month list, including the history of the initiative and details on its design. Section II discusses a brief conceptual framework for considering the likely effects of the six-month list, with an emphasis placed on how the six-month list has shaped judicial incentives. Section III describes the original motion-level data that will form the basis of my empirical analysis. Section IV outlines the empirical framework for my analysis, with an emphasis on how I will tease causal effects out of a real-world policy change. Section V presents results on the two primary research questions. First, does the six-month list accomplish its ostensible goal of promoting speedy adjudications, and second, what—if any—are its consequences for the quality of adjudication? Section V also offers evidence on how the effects of the six-month list vary across judges. Section VI offers insights—drawn from

my empirical analysis—for the future of civil justice reform, and I conclude with a brief discussion of directions for future research.

I. LEGAL & POLICY BACKGROUND: WHERE THE "SIX-MONTH LIST" CAME FROM AND WHAT IT DOES

In the following section I offer a brief overview of the history and mechanics of the six-month list. The six-month list was passed into law as part of the Civil Justice Reform Act of 1990 (CJRA).[36] The drafting and passage of the CJRA was swift—from introduction to enactment, it occupied the Congress for less than twelve months[37]—but appetite for civil justice reform, at least in certain corners, had long been brewing.[38] By the late 1980s and early 1990s, two decades of rapid caseload growth[39] and a corresponding slowdown in case-processing times[40] stoked fears of a judicial crisis.[41] And the problem, at least according to some, was not just practical[42] but

[36]Pub. L. No. 101–650, 104 Stat. 5089 (1990).

[37]*see* Jeffrey Peck, *Users United: The Civil Justice Reform Act of 1990*, 54 LAW & CONTEMP. PROBS. 105, 118 (1991).

[38]For a brief history of the political, economic, and social forces that led to the passage of the CJRA, *see* Peck, *supra* note 37, at 107–109.

[39]*See, e.g.*, Peter S. Menell & Ryan Vacca, *Revisiting and Confronting the Federal Judiciary Capacity "Crisis": Charting a Path for Federal Judiciary Reform*, 108 CAL. L. REV. 789, 844–48 (2020) (documenting growth in overall and per-judge filings and terminations in both federal district and circuit courts).

[40]*See, e.g.*, Mennell & Vacca, *supra* note 39, at 851 (documenting steady increase in average case-processing times).

[41]*See, e.g.*, David Neubauer, *Reducing Delay in the Courts: An Introduction to This Issue*, 62 JUDICATURE 111 (1978). Although the these fears were not fully realized—excluding a major new MDL initiated in the Northern District of Florida in 2019 (In re 3M Combat Arms Earplug Products Liability Litigation, N.D. Fla., No. 19-md-2885), civil case filings grew by just 24% between 1990 and 2020, far short of the more-than 300% increase projected by the Judicial Conference had in its 1995 Long Range Plan—there has been modest growth in median total processing time for civil cases since the 1970s. *See* Menell & Vacca, *supra* at 851.

[42]*See* JUDICIAL CONFERENCE OF THE U.S., LONG RANGE PLAN (1995) at 15 tab. 3, available at https://www.uscourts.gov/sites/default/files/federalcourtslongrangeplan_0.pdf (projecting rapid growth in civil filings between 1995 and 2020); Menell & Vacca, *supra* note 39, at 813–40 (chronicling evolution of judicial workloads and attempts at judiciary reform between 1970s and 1990s)

also cultural.[43] In a speech to the American Law Institute on May 17, 1983, for example, Chief Justice Warren Burger decried what he saw as a nation plagued "with an almost irrational focus—virtually a mania—on litigation as a way to solve all problems."[44]

Among those listening to the calls for civil justice reform was then-Senator Joseph Biden of Delaware. Beginning in 1988, Senator Biden (then chairperson of the Senate Committee on the Judiciary) commissioned a report from the Brookings Institution and the Foundation for Change.[45] The request to the Brookings Institution was itself prompted by the results of a survey of judges and attorneys conducted by private polling firm Louis Harris and Associates, Inc.[46] The Harris survey, which sought to identify sources of excess cost and delay in civil litigation, laid particular blame at the feet of "over-discovery" in civil cases.[47] The Brookings Task Force was convened not only to transform the Harris survey results into actionable recommendations for reform, but also to build consensus around those recommendations. Members of the Task Force included "leading litigators from the plaintiff and defense bars, civil and women's rights lawyers, attorneys representing consumer and environmental organizations, former trial and appellate court judges, representatives of the insurance industry, general counsel of major corporations, and law professors."[48] Among the recommendations of the Brookings Task Force was a prototype of what would become the six-month list: "Accordingly, we recommend that the Administrative Office of the U.S. Courts be directed to computerize, in each district, the court's docket so that quarterly reports can be made to the public of at least all pending submitted motions before each judge that are unresolved for more than 30, 60, and 90 days . . . We believe that substantially expand-

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[43]WALTER K. OLSON, THE LITIGATION EXPLOSION: WHAT HAPPENED WHEN AMERICA UNLEASHED THE LAWSUIT (1991) (critiquing the U.S.'s perceived culture of litigiousness).

[44]Stuart Taylor, Jr., *Justice System Stifled by Its Costs and Its Complexity, Experts Warn*, N.Y. TIMES, June 1, 1983, at 1, A1, https://www.nytimes.com/1983/06/01/us/justice-system-stifled-by-its-costs-and-its-complexity-experts-warn.html.

[45]BROOKINGS TASK FORCE ON CIVIL JUSTICE REFORM, JUSTICE FOR ALL: REDUCING COSTS AND DELAY IN CIVIL LITIGATION (1989), https://www.fjc.gov/sites/default/files/2017/CJRA-F1-3-%20Justice%20for%20All%20Report%20of%20a%20Task%20Force%2089.pdf; Peck, *supra* note 37, at 107.

[46]*Id.* at 107–08.

[47]*Id.*

[48]*Id.* at 108

ing the availability of public information about caseloads by judge will encourage judges with significant backlogs in undecided motions and cases to resolve those matters and to move their cases along more quickly."[49]

The Civil Justice Reform Act—or the "Biden Act," as it was sometimes called[50]—was introduced in January 1990 with Senator Biden as its chief sponsor.[51] The Brookings Task Force Report informed much of the conversation on Capitol Hill. In fact, an early House bill called for implementing a near facsimile of the Task Force recommendations.[52] The proposal was based on the findings that "delays in deciding fully briefed motions contribute to the costs of litigation by preventing the narrowing of issues, encouraging the parties to conduct unnecessary discovery and requiring rediscovery," and "the reduction of such delays can be encouraged by substantially expanding the availability of public information about backlogs in undecided motions."[53]

In October 1990, following two hearings in the Senate Judiciary Committee and one hearing in the House Judiciary Committee, the CJRA passed both houses of Congress.[54] Congress was explicit about its intentions. "The purpose of [the CJRA] . . . [was] to facilitate reduction in the delays and expense of civil litigation."[55] While the language of the CJRA and its legislative history invoke principles of procedural fairness, Congress appears to have been largely driven by economic motives. Members of Congress observed that "the cost and delays in civil litigation . . . are harmful to both the national economy and to the fairness of our legal system."[56]

Among its many provisions, the CJRA mandated the formation of "advisory groups" tasked with identifying and reporting sources of excess cost and delay in civil litigation.[57] Like other products of the case management

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[49] BROOKINGS TASK FORCE ON CIVIL JUSTICE REFORM, *supra* note 45, at 27.

[50] *See* Stephen Labaton, *Biden's Challenge to Federal Courts*, N.Y. TIMES, Apr. 16, 1990, at D2, https://www.nytimes.com/1990/04/16/business/business-and-the-law-biden-s-challenge-to-federal-courts.html.

[51] Peck, *supra* note 37 at 109.

[52] H.R. 3898, 101st Cong. (as introduced in the House, January 25, 1990).

[53] *Id.* at §2.

[54] Peck, *supra* note 37 at 109.

[55] H.R. REP. NO. 101-732, at 7 (1990).

[56] *Federal Courts Study Committee Implementation Act and Civil Justice Reform Act: Hearing Before the Subcommittee on Courts, Intellectual Property and the Administration of Justice of the H. Comm. on the Judiciary on H.R. 5381 and H.R. 3898*, 101st Cong. 83 (1990) (statement of Rep. Hamilton Fish, Jr.).

[57] CJRA, Pub. L. No. 101–650 at §103(a), 104 Stat. 5089, 5094 (codified at 28 U.S.C. §478).

revolution, the CJRA largely reflected the view that individual judges were both a major source of and a key player in responding to litigation delay.[58] Accordingly, despite backing from the JCUS,[59] the Act itself met with some skepticism from front-line judges.[60]

The law is perhaps best known today for its imposition of new judicial reporting requirements on members of the federal bench. Specifically, Section 103 of the Act directed the Director of the Administrative Office of the U.S. Courts (AO) to "prepare a semiannual report, available to the public, that discloses for each judicial officer the number of motions that have been pending for more than six months and the name of each case in which such motion has been pending."[61] The six-month list provision of CJRA has been in continuous effect since 1991,[62] and in addition to the reporting requirement for pending motions,[63] the law also requires the reporting of bench trials that have been submitted for six months or longer and overall civil cases that have been pending for three years or longer.[64] Since 1998, JCUS rules have also required the reporting of bankruptcy and social security appeals pending six months or longer.[65]

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[58] *See generally* BROOKINGS TASK FORCE ON CIVIL JUSTICE REFORM, *supra* note 45; *see also* Labaton, *supra* note 50 ("'The real problem here is that Federal judges have lifetime tenure' said a senior Judiciary Committee aide [prior to the Act's passage").

[59] Peck, *supra* note 37, at 109.

[60] Labaton, *supra* note 50 ("'They are trying to take examples of judges who have been bogged down and extrapolate it to apply to the whole judiciary,' said James L. Oakes, the chief judge of the United States Court of Appeals for the Second Circuit . . . 'To the extent that it does lay blame on the judges, it's a bad rap.'").

[61] CJRA, Pub. L. No. 101–650 at §103(a), 104 Stat. 5089, 5093–94 (codified at 28 U.S.C. §476).

[62] Under the law's own sunset provision, the CJRA ostensibly expired in 1997. However, just months before sunset, Congress indefinitely extended the law's hallmark reporting requirements—including the semi-annual "six-month lists." For a discussion of the CJRA's peculiar status post-sunset, see Carl Tobias, *The Expiration of the Civil Justice Reform Act of 1990*, 59 WASH. LEE L. REV. 541 (2002).

[63] An exception is motions filed in habeas corpus petitions, which, while not excluded by statute, have generally been construed by the JCUS as exempt from the CJRA's reporting requirements.*See* Marc D. Falkoff, *The Hidden Costs of Habeas Delay*, 83 U. COLO. L. REV. 339 (2012). Nonetheless, I find that the six-month list still has some effect on motions relating to habeas petitions. *See infra* Section V.A.

[64] 28 U.S.C. at §476(a)(2)–(3).

[65] *See* JUDICIAL CONFERENCE OF THE UNITED STATES, REPORT OF THE PROCEEDINGS OF THE JUDICIAL CONFERENCE OF THE UNITED STATES 63 (Sept. 15, 1998), https://www.uscourts.gov/sites/default/files/1998-09$_0$.*pdf*.

CJRA semiannual reports are posted twice per year on March 31st and September 30th to a United States Courts website, where members of the public can access them.[66] Appendix Figure 16 displays an excerpt from the September 30, 2016, CJRA six-month report. Importantly, implementation guidelines give motions a 30-day grace period before they are considered "pending" for the purposes of the six-month list.[67] Accordingly, the term "six-month list" is actually somewhat misleading, as judges have at least six months plus thirty days to review any motion before it could potentially appear on the six-month list. Each CJRA report is effectively a snapshot in time, listing only those motions that were overdue and still pending as of the report's publication date. Thus, regardless of the amount of time it has spent pending, a motion *does not* appear on the six-month list if a judge manages to dispose of it prior to the March 31st or September 30th publication date.

One might be skeptical that the six-month list would actually have any effect on judicial behavior. The six-month list provides little more than a behavioral nudge,[68] and federal judges are hard to incentivize. Article III judges enjoy lifetime tenure and protected salaries, and more generally, they are likely accustomed to being treated with independence and deference.

And yet, the data reveal that the six-month list *does* matter for judicial behavior. Figure 1 presents counts of summary judgment motion dispositions by calendar day for the period 2005-2014. Dotted lines mark the two six-month list deadlines of March 31st and September 30th. The effects of

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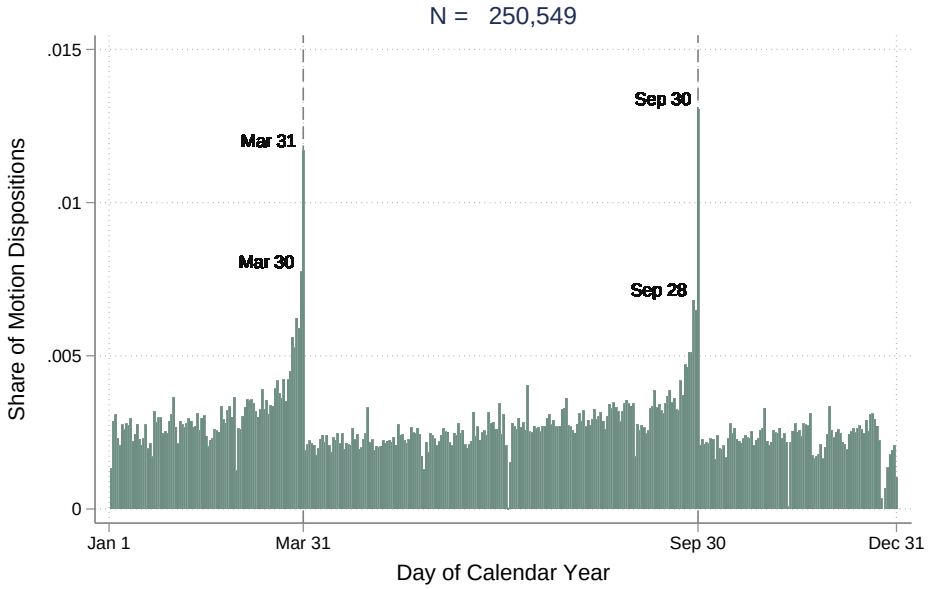
[66] *Civil Justice Reform Act Report*, U.S. COURTS, https://www.uscourts.gov/statistics-reports/analysis-reports/civil-justice-reform-act-report (last visited April 1, 2020).

[67] Detailed definitions implementation guidelines are published in the appendix to the AO's semi-annual CJRA reports. *See, e.g.*, AO, CIVIL JUSTICE REFORM ACT REPORT 81 (September 30, 2018), https://www.uscourts.gov/sites/default/files/cjra_na_0930.2018_1.pdf. A district judge can also resolve a motion by referring it to a magistrate judge, in which case the magistrate judge must dispose of the motion within six months (plus an additional 30-day grace period) or else the motion will appear on the six-month list for both the magistrate judge *and* the referring district judge.

[68] *See* RICHARD H. THALER & CASS R. SUNSTEIN, NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS 6 (2008): "A nudge, as we will use the term, is any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid." Later in the article I will argue that the six-month list does indeed alter judges' economic incentives, although not monetarily and not with any near-term consequences. Moreover, it is both cheap and easy for a judge to avoid an appearance on the list.

the six-month list are immediately discernible: the pace of motion dispositions begins to increase in the months of the reporting deadlines, with a large mass of motion dispositions in the days immediately preceding the deadlines.

Figure 1: **Histogram of Summary Judgment Motion Dispositions (by calendar day) All Federal Civil Cases, 2005-2014**



Descriptive evidence suggest not only that the six-month list affects *when* judges do their work, but also *how* they do it.[69] Table 1 presents descriptive statistics from two samples of summary judgment motions: those ruled on "in the shadow" of the six-month list—that is, in the two weeks immediately preceding a CJRA six-month list—and those ruled on at any other time of the year.

[69]In fact, judges on the U.S. Courts of Appeals have occasionally expressed this worry. *See, e.g.*, Ali v. Pruitt, 727 F. App'x 692, 694–95 (D.C. Cir. 2018) (noting that the district judge's March 31 three-line order granting summary judgment was issued "barely before" the six-month list deadline, and suggesting that the order was hastily drafted in "an effort to avoid the 'stigma' associated with the six-month reporting requirement"); *see also* St. Marks Place Housing Co., Inc. v. HUD, 610 F.3d 75, 82 (noting "stigma" associated with appearing on the list) (citing Otis v. City of Chicago, 29 F.3d 1159, 1172 (7th Cir. 1994) (Rover, J., concurring) ("[I]t generally is perceived (whether correctly or incorrectly) as something of a stigma to have cases included on such a published report")).

The patterns are striking. Motions decided in the two weeks immediately preceding either of the six-month lists are substantially older (by an average of more than 2.6 months). They are more likely to have been filed in a lawsuit involving at least one *pro se* litigant, and they are more likely to have been filed in a lawsuit where one of the litigants has sought a waiver of court fees (i.e. *in forma pauperis*). Perhaps most striking, the rulings themselves are different. Motions decided in the two weeks prior to the six-month list are less likely to be granted in full (by approximately 2.2 percentage points), they are more likely to be granted in part (by approximately 2.5 percentage points), and they are nearly 6.9 percentage points more likely to be followed by a subsequent appeal to the Court of Appeals. In fact, Table 1 corroborates some of the main findings from the de Figueiredo *et al.* article, including their observation that the plaintiff win rate decreases in weeks immediately preceding the six-month list.[70] The patterns shown here, however, are decidedly non-causal. Since there may well be systematic differences between the types of motions decided in the weeks preceding the publication of the six-month list and those decided at other times, the latter group does not constitute an adequate "control" group. Nonetheless, these patterns do suggest that the six-month list has *some* effect on judicial behavior. In the remainder of this article the goal will be to investigate with greater scientific rigor just what the nature of that effect is. First, the following section provides a brief conceptual framework for considering how the six-month list shapes judicial incentives and what the consequences are likely to be for judicial behavior.

II. Conceptual Framework: A Model of Judicial Behavior Against the Backdrop of the Six-Month List

According to Judge Richard Posner, "[t]he economic theory of judicial behavior has to surmount two difficulties. One is neglect of psychological factors—of cognitive limitations and emotional forces that shape behavior along with rational calculation . . . [and t]he other . . . is that of identifying the incentives and constraints that shape the vocational behavior of workers whose work is so structured as to eliminate the common incentives and constraints of the workplace. Federal judges cannot be removed from office, short of gross misconduct, and cannot be docked pay, exiled to undesirable

[70] de Figueredo et al., *supra* note 22, at 418.

Table 1: **Comparison of Means: Summary Judgments Decided Immediately Before 6-Month List Vs. All Others All Civil Cases, (2005-2014)**

	(1) Last Two Weeks	(2) All Other Weeks	(3) Difference in Means
Months Until Disposition	7.58	4.90	2.68
	(5.18)	(4.38)	[0.09]***
Reporting Time (months)	9.77	10.06	-0.29
	(1.80)	(1.73)	[0.04]***
% Due	0.51	0.51	-0.00
	(0.50)	(0.50)	[0.02]
% Granted	0.47	0.49	-0.02
	(0.50)	(0.50)	[0.01]***
% Granted in part	0.15	0.13	0.03
	(0.36)	(0.33)	[0.00]***
% Denied	0.34	0.34	0.00
	(0.47)	(0.47)	[0.01]
% Decided for Plaintiff	0.25	0.27	-0.02
	(0.43)	(0.44)	[0.00]***
% Decided for Defendant	0.56	0.56	0.00
	(0.50)	(0.50)	[0.01]
% Order Appealed	0.29	0.21	0.08
	(0.45)	(0.41)	[0.03]***
% Filed Pro Se	0.19	0.17	0.01
	(0.39)	(0.38)	[0.01]
% In Forma Pauperis	0.18	0.15	0.03
	(0.39)	(0.36)	[0.01]**
N	69,770	406,070	475,840

This table presents a comparison of means between summary judgment motions decided in the two weeks immediately preceding the publication of a six-month list (that is, in the final two weeks of March and the final two weeks of September) and summary judgment motions decided in all other weeks of the calendar year. Details on the sample are provided in Section III. Columns (1) and (2) show sample means with standard deviations in parentheses, and column (3) shows differences in means with standard errors in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

judicial venues, or paid bonuses."[71]In the following section, I develop a model of judicial behavior that attempts to address both challenges identified by Judge Posner. My conceptual framework combines elements from three categories of models—namely, career concerns-style models, models featuring procrastination or "present bias," and multitasking models—all of which are common in economics and other social sciences. I will rely on this conceptual framework as I consider which types of incentives are likely to be most effective at influencing judicial behavior, and as I consider the potential trade-offs between various goals of the civil justice system.

The standard career concerns model was in part an attempt to explain the absence of performance-based incentive contracts in many real-world settings.The basic idea is that, even in the absence of performance pay, agents will exert positive effort so long as their "career concerns" (often modeled as future compensation, perhaps due to raises, promotions, or outside offers by competitor firms) so dictate. The model has its roots in Eugene Fama's observation that corporate managers will be influenced by reputational concerns.[72] The theory was later formalized in models by Bengt Holmstrom and Milton Harris.[73]Career concern-like forces have been validated in various empirical settings, including among mutual fund managers[74] and public utility regulators.[75]

Even for federal judges, whose tenure and salaries are protected, the career concerns model may have some explanatory power. Particularly relevant to judges is the possibility of promotion. US. District Court judges may be motivated by the prospect of elevation to the U.S. Courts of Appeals, and appellate judges may be motivated by the prospects—however remote—of elevation to the Supreme Court. Moreover, while many judges retire from the bench, many others will continue on to a second career in private practice, legal academia, or elsewhere. Judges may therefore be motivated to maintain a good reputation in the eyes of future employers. The career concerns model suggests that judges are likely to comply with the

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[71]RICHARD POSNER, HOW JUDGES THINK 37 (2008).

[72]Eugene F. Fama, *Agency Problems and the Theory of the Firm*, 88 J. POL. ECON. 288 (1980).

[73]*See* Milton Harris & Bengt Holmstrom, *A Theory of Wage Dynamics*, 49 REV. ECON. STUD. 315 1982); Bengt Holmstrom, *Managerial Incentive Problems: A Dynamic Perspective*, 66 REV. ECON. STUD. 169 (1999).

[74]Judith Chevalier and Glenn Ellison, *Career Concerns of Mutual Fund Managers*, 114 Q. J. ECON. 389 (1999).

[75]Timothy Besley & Stephen Coate, *Elected Versus Appointed Regulators: Theory and Evidence*, 1 J. EUR. ECON. ASS'N 1176 (2003).

six-month list, lest their non-compliance adversely affect their future career prospects. The career concerns model also predicts a degree of heterogeneity among judges. In particular, the six-month list is likely to generate the largest response from young judges, for whom a promotion is both more likely (since Presidents like to appoint judges who are young enough to sit on the bench for several years to come) and more valuable (since they have more years left during which to enjoy the fruits of a promotion). Since young judges have less professional history, each instance of compliance or non-compliance with the six-month list may also contribute more to their colleagues' posterior beliefs about their competency. I test for and confirm the presence of judge heterogeneity in Section V.D of the paper.

While reputational concerns are natural, so too is the tendency for procrastination. Procrastination is a common feature of behavioral economics models. The canonical model is attributable to George Akerlof, who based his model on the observation "present benefits and costs may have undue salience relative to future costs and benefits."[76]Procrastination in the economics literature is typically modeled with time-inconsistent preferences, often with hyperbolic discount functions.[77]

The empirical evidence for procrastination spans a wide variety of real-world settings.[78]Perhaps most relevant to federal judges is a recent article by Michael Frakes and Melissa Wasserman, who show that procrastination is commonplace among at least one group of judge-like bureaucrats: namely, examiners for the U.S. Patent Office. They find that patent examiners routinely procrastinate until just before deadlines. They find additional evidence that stricter deadlines are associated with reductions in examiner scrutiny, resulting in higher grant rates for low-quality patent applications.[79] Also relevant is a paper by Raj Chetty, Emmanuel Saez, and Laszlo Sandor,[80]who document procrastination among journal referees. In fact, the experimental intervention studied by Chetty *et al.* is remarkably similar to the six-month list itself. In their study, academic journal referees are told that their turnaround times will be posted on a publicly-available

[76]George A. Akerlof, *Procrastination and Obedience*, 81 AM. ECON. REV. 1 (1991).

[77]*See, e.g.,* David Laibson, *Golden Eggs and Hyperbolic Discounting*, 112 Q. J. ECON. 443 (1997).

[78]*See, e.g.*, Supreet Kaur, Michael Kremer, & Sendhil Mullainathan, *Self-Control at Work*, 123 J. POL. ECON. 1227 (2015) (Documenting procrastination among data-entry workers.

[79]Michael D. Frakes and Melissa F. Wasserman, *Procrastination at the Patent Office?* 183 J. Pub. Econ. 1 (2020)

[80]Raj Chetty, Emmanuel Saez, & Laszlo Sandor, *What Policies Increase Prosocial Behavior? An Experiment with Referees at the Journal of Public Economics*, 28 J. ECON. PERSP. 169 (2014).

website. They find that these social sanctions are nearly as effective as cash incentives at reducing delays in peer review.[81]

Insofar as judges respond to the six-month list, a procrastination-style model may explain why. Due to the career concerns described above, the six-month list increases the cost of delay, which is likely to result in faster adjudications on average. Moreover, since present effort is still more costly than future effort, procrastination-style models predict that judges will wait until immediately before the six-month list publication dates to dispose of their overdue motions. This has the potential to generate the patterns observed in Figure 1.

Finally, my conceptual framework incorporates additional insights from Bengt Holmstrom and Paul Milgrom's 1991 multitask principal-agent (or "multitask") model.[82]The multitask model has quickly become a canonical model in law and economics (and particularly in the field of contract theory); multitask models are especially useful for considering trade-offs between competing goals or priorities.

Relative to the traditional principal-agent problem—wherein an agent performs a single task or makes a single decision on behalf of a principal, often contrary to the principal's best interests—the multitask model is most appropriate for settings in which an agent is simultaneously responsible for multiple tasks or decisions, or in which the agent's single task consists of multiple dimensions. The basic intuition of the multitask model is easily understood in the context of classroom teaching. Consider a school teacher who is responsible for several aspects of his students' enrichment. He is tasked with teaching his students reading, writing, and arithmetic, but he is also responsible for cultivating certain "soft skills," like their ability to work in groups and empathize with others. However, the students are subject to annual standardized testing, and the standardized tests measure only reading and math skills. If the teacher's performance evaluations are tied to his students' test scores, then common sense dictates that the teacher will spend a disproportionate share of his time teaching his students reading and math, and he will give less attention to the so-called soft skills.

The "teaching to the test" problem faced by teachers mimics some of the same incentives imposed on federal district judges. Judges are expected to meet simultaneous goals of speed, accuracy, and fairness. Among these goals, speed is almost certainly the easiest to monitor. In any given case,

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[81] *Id.* at 181.

[82] Bengt Holmstrom and Paul Milgrom, *Multitask Principal-Agent Analyses: Incentive Contracts, Asset Ownership, and Job Design*, 7 J.L. ECON. & ORG. 24 (1991).

speed-related metrics can be easily calculated from basic docket information. Judges can be compared in terms of average age of caseload, average time until disposition, average decisional time for various types of motions, and so on. Accuracy and fairness, on the other hand, are much more difficult to monitor, and observable statistics are likely to belie the truth. Two judges may have very different plaintiff win rates, but how can we determine whether either is more fair or accurate? Do the fair and accurate judges grant more summary judgments or fewer? We can look to appellate outcomes—i.e., how often is the judge reversed on appeal, and how often is she affirmed—but most matters are never appealed, and even when they are, appellate judges are no less human than their lower-court colleagues. Under these conditions, where some tasks are more easily monitored than others, high-powered incentives are likely to distort judges' behavior towards the more easily monitored task. The reasoning is straightforward. If time is scarce, and efforts at judicial economy are rewarded more directly than efforts at accuracy or fairness, then the rational judge should take actions that tend to favor speed over either accuracy or fairness.

With respect to the six-month list, the multitask model predicts that, insofar as the list promotes speed, it may also have adverse effects on adjudicative quality. Any evidence of effects on substantive motion outcomes (e.g. grant & denial rates, plaintiff or defendant win-rates, etc.) or appellate outcomes (e.g. appeals rates, reversal rates, etc.) will tend to confirm this hypothesis.[83]

Putting together these various pieces, my conceptual framework yields several predictions. First, my model predicts that exposure to the six-month list will yield faster adjudications on average, with judges deciding many of their motions in the days and weeks immediately preceding the six-month list deadlines. Second, the multitask model suggests that exposure to the six-month list *may* result in changes to substantive case outcomes, but this relationship is likely to depend on factors including the degree of judges' present bias, the strength of the reward for judicial effort, and the substitutability between speed and effort. Third, I anticipate that judges will respond to the six-month list heterogeneously, with judges for whom career concerns are especially salient being among the most sensitive to the six-month list. The remainder of this paper proceeds to test these hypotheses. But first, the following section introduces the data behind my empirical analysis.

[83]This section is dedicated to a summary description of my conceptual framework. A basic formal model is presented in Section A of the Appendix.

III. DATA AND DESCRIPTIVE STATISTICS

This paper makes use of novel motion-level data from civil cases filed in the United States District Courts. I constructed my original dataset from Westlaw's database of U.S. District Court civil docket reports.Commonly known as the "DCT" database, these data contain much of the same docket information contained in the government's own PACER database. The same DCT database formed the basis of Jonah Gelbach'sstudy of summary judgment motion filings and judicial characteristics.[84] The data were obtained as raw XML files[85] consisting of both case-level background information (including case filing date; case termination date, if applicable; judge name; detailed names of parties and their lawyers; and standardized codes for the nature of the suit) as well as the text of docket entries pertaining to activity in the case. I wrote computer code to scrape and parse the docket entries and to re-organize them as a motion-level dataset of all summary judgment motions filed between 2005 and 2014. More specifically, my code searched each docket for docket entries corresponding to original motions for summary judgment. It then matched these motions to docket entries corresponding to court orders disposing of the motion. The motion-level data include the date on which a motion was filed; the identity of the moving party (i.e. whether the motion was filed by the plaintiff or defendant); the date, if any, on which the motion was decided by the court; and the outcome, if any, of the motion (i.e. whether it was granted, denied, granted-in-part, or dismissed due to mootness).

In addition to the original motion-level data, this paper leverages three public-use datasets. All three of the public-use datasets are available from the Federal Judicial Center (FJC), which is the judiciary's in-house research and education agency. First, I have matched individual motions from my original dataset with case-level data from the FJC's Integrated Database (IDB) of civil cases filed, pending, and terminated in federal district courts since 1970.[86] I matched motions from my original dataset to cases in the IDB on the basis of docket number, filing date, and the court in which the case was filed. Although the case-level IDB data provide very little information that was not already available in the Westlaw DCT database, what

[84]Jonah Gelbach, *Rethinking Summary Judgment Empirics: The Life of the Parties*, 162 U. PA. L. REV. 1663, 1676 (2014).

[85]XML files look much like basic text files, but with additional metadata to indicate the structure of underlying information.

[86]*Integrated Database (IDB)*, FED. JUD. CTR., https://www.fjc.gov/research/idb.

these data do provide is the opportunity to validate certain aspects of my motion-level data against a commonly-used public-use dataset.

Second, I have similarly merged my motion-level data with a dataset of appeals filed before the U.S. Courts of Appeals. The appellate dataset is also obtained from the FJC's IDB. By merging district court cases with subsequent appeals, I am able to assess whether exposure to the six-month list had any effect on either appeal rates or appellate outcomes (e.g. whether the appellate court affirms, reverses, remands, etc.).

Last, I have merged my data with a database of judge characteristics, also available from the FJC.[87] The FJC's database of judges contains a wealth of demographic and biographical details relating to U.S. federal judges. From the FJC's judge database I can learn about each district judge's age, gender, race and ethnicity, and even their educational and professional background. I use the data on judge characteristics in order to probe potential heterogeneity in how judges respond to the six-month list.

The result is a working dataset consisting of 475,840 summary judgment motions arising from a total of 290,777 separate cases, reflecting an average of approximately 1.64 summary judgment motions per case. Of these, I was able to identify an explicit disposition (including both the date and outcome of the disposition) for 250,564 separate motions (53% of the total). Table 2 summarizes my original motion-level dataset. Importantly, the average number of months until a motion appears on the six-month list is almost exactly 10 months in both the full sample and the sample of motions with known dispositions, suggesting that missing dispositions are uncorrelated with exposure to the six-month list. Among the sample of summary judgment motions in which a disposition could be identified, approximately 63% were filed by the defendant, and approximately 30% were filed by the plaintiff, reflecting the pro-defendant bias of the summary judgment device. I was unable to identify a movant in the remaining 7% of cases, which may indicate that summary judgment was entered by the court *sua sponte*. The average summary judgment motion was decided in approximately 5.32 months (compared to an average overall case duration of slightly less than two years.[88] The remaining rows show that motions for summary judgment

[87] *Biographical Directory of Article III Federal Judges, 1789-present* , FED. JUD. CTR., https://www.fjc.gov/history/judges.

[88] Since summary judgment motions occur relatively late in the course of litigation, the average overall case duration in my dataset is likely to be higher than the average overall case duration across all civil filings in U.S. district courts.

are frequently granted, with approximately 61% of my sample being either fully granted or granted in part.

The relatively low rate at which I was able to match new motions to motion dispositions reflects three realities. First, although I restrict to motions filed at least one year prior to the end of my sample period, there are some motions and cases that had not been adjudicated by the end of my sample period.[89] Second, when a case is disposed of on other grounds—for example, when the parties negotiate a settlement—the docket will not always clearly reflect a specific disposition for each pending motion. This would only introduce bias if the missingness was correlated with both outcomes and exposure to the six-month list–which, as demonstrated by Table 2, does not appear to be the case. Third, given the difficulty of parsing highly variable text entries, it is quite possible that my algorithm has simply failed to identify some dispositions. Appendix Table 10 shows that the samples of motions with known and unknown dispositions are roughly balanced with respect to fixed characteristics like the moving party, although there are slight differences in the distribution of case types.

The summary statistics presented in Table 2 show mean motion duration, but we may learn more by examining the full distribution of motion durations. Figure 2 shows a histogram of total summary judgment motion duration (i.e. months pending before disposition) for my main sample of adjudicated motions. Although the modal duration is less than five months, a large share ($\sim 32\%$) of motions are pending for between six and thirteen months. Just 4% of motions stay pending for longer than thirteen months.

Each motion in my dataset is assigned a "Nature of Suit" code indicating the nature of the underlying suit. Being that my data are drawn from the entirety of district court civil filings, my main sample spans a wide variety of case types. Appendix Figure 17 shows the approximate distribution. Among the most common case types are contracts, non-employment civil rights actions, employment-related civil rights claims, prisoners' rights, and various torts (including personal injury, product liability, and medical malpractice). It is worth noting that the legal significance of a summary judg-

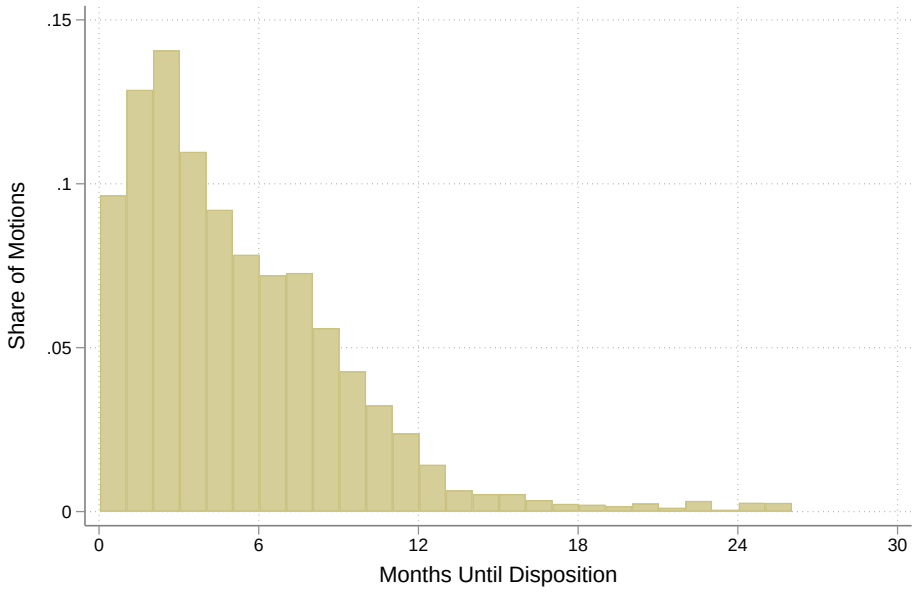
[89] In alternate specifications, I will also restrict to motions that were decided within one year, in order to ensure that all motions within my sample were given an equal opportunity to be decided.

Table 2: **Summary Statistics, Summary Judgment Motions All Civil Cases, (2005-2014)**

	(1) Full Sample	(2) Known Disposition
% Filed by Plaintiff	0.29	0.30
	(0.454)	(0.457)
% Filed by Defendant	0.62	0.63
	(0.485)	(0.483)
Months Until 6-Month Report	10.02	10.00
	(1.746)	(1.752)
Months Until Disposition		5.32
		(4.617)
% Motion granted		0.48
		(0.500)
% Motion granted in part		0.13
		(0.339)
% Motion denied		0.34
		(0.473)
% Motion Decided for Plaintiff		0.26
		(0.441)
% Motion Decided for Defendant		0.56
		(0.496)
% Order on Motion Appealed		0.27
		(0.443)
Observations	475,840	250,564

This table presents summary statistics on the main motion-level dataset. Standard deviations are presented in parentheses below sample mean.

Figure 2: **Histogram of Summary Judgment Motion Durations (months until disposition)**



ment motion, as well as the value to litigants of judicial efficiency, is likely to vary across these case types.[90]

IV. EMPIRICAL FRAMEWORK

The following section provides details on my empirical framework, the goal of which is to estimate the causal effects of exposure to the six-month list on both the speed and quality of district court adjudications. As discussed above, *supra* Section I, the CJRA requires federal courts to prepare semiannual reports of all motions pending more than six months (after taking into account a thirty-day grace period) and all civil cases pending more than three years. Because the reports are published just twice a year—on March 31st and September 30th—cases and motions vary in their "reporting time," which is the term I will use to refer to the amount of time that a judge could *hypothetically* spend reviewing a motion before that motion must appear for the first time on a six-month list (if it has not already been decided). In other

[90] As detailed in the Section IV, most specifications will include nature-of-suit fixed effects in order to control for systematic differences between case types.

words, cases and motions can be more or less *exposed* to the list. Accounting for the 30-day grace period, motions vary between approximately seven and thirteen months of reporting time.

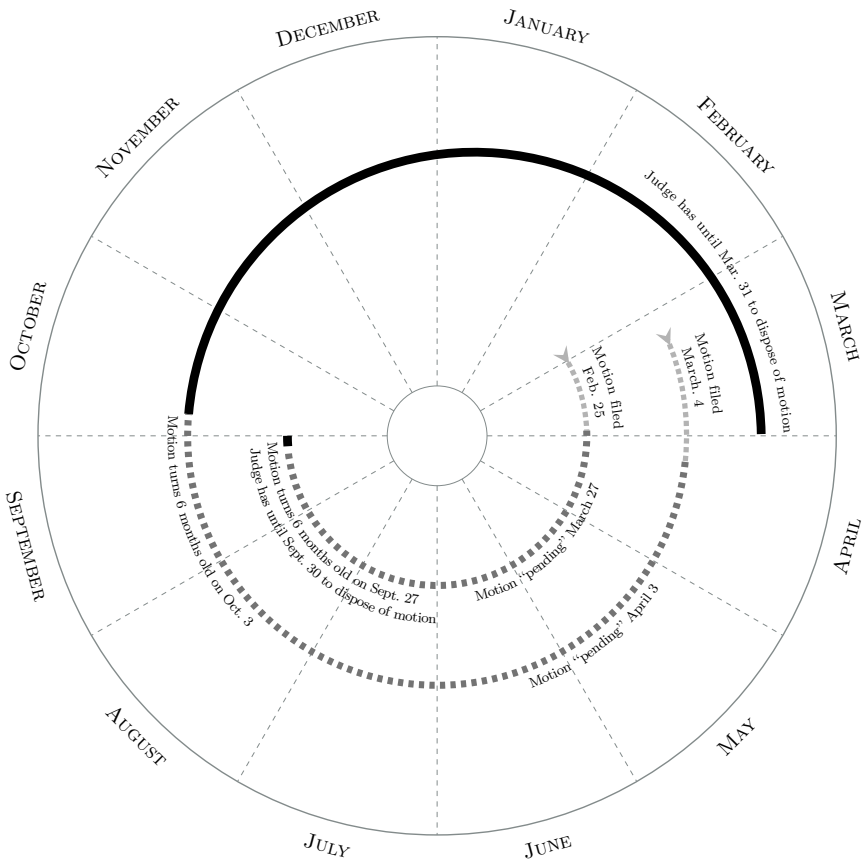
Figure 3 illustrates two extreme examples of motions' relative exposure to the six-month list. The two concentric spirals represent two motions, one (the outer spiral) filed February 25th, and the other (the inner spiral) filed on March 4th. The two filings are separated by just a handful of days, but the consequences for the six-month list are enormous. Consider first the motion filed on February 25th. According to the implementation guidelines, the motion becomes pending 30 days later, which happens to fall on March 27th. On March 31st, when the next six-month list is published, the motion has only been pending for four days, so the motion is of course ineligible to appear on the list. However, fast-forwarding to September 30th of the same year, the motion has been pending for just over six months, and if the judge has not yet disposed of it, it must appear on the September 30th list. Counting the days between February 25th (when the motion was filed) and September 30th (when the motion becomes eligible for its first six-month list), the motion enjoys 214 days (or approximately seven months) of reporting time. Now, consider a motion filed just one week later, on March 4th. The motion becomes pending 30 days later, on April 3rd, and on September 30th, the motion has been pending for just short of six months. The motion is therefore ineligible to appear on the September 30th list. Instead, the motion does not become eligible for a list until March 31st of the following year, at which point the motion has already enjoyed 392 days (or approximately thirteen months) of reporting time. Between these two extremes, motions will vary between seven and thirteen months of reporting time. Figure 4 plots reporting time as a function of motion filing date.

Stated in the simplest terms, my empirical strategy consists of comparing the outcomes of motions with relatively high reporting time to the outcomes of otherwise similar motions with relatively low reporting time. In the following section I consider the assumptions that must be met in order for my approach to yield credibly identified causal estimates of the effects of the six-month list.

A. Identifying Assumptions

Identification requires that, conditional on the available motion- and case-level controls, the date on which a motion is filed is effectively random. In other words, it would a problem for my identification if parties timed their motion filings strategically in order to take advantage of the six-month list.

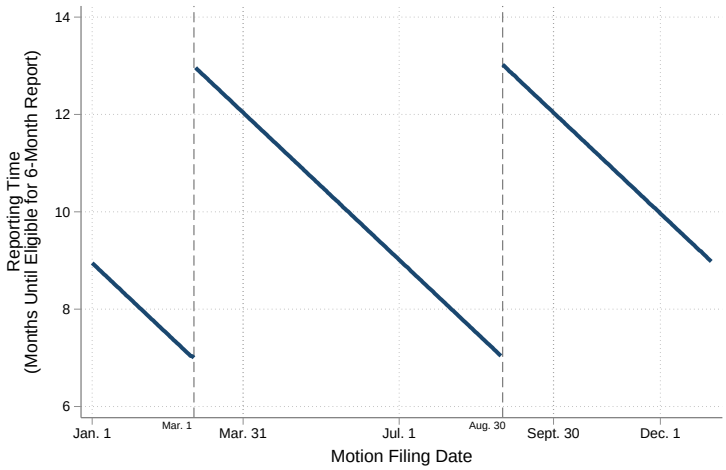
Figure 3: **Two Examples of Six-Month List "Reporting Time"**



If litigants file their motions strategically—for example, seeking to either expedite or delay the adjudication of their motions by filing just before or after a reporting deadline, or seeking to take advantage of a judge's tendency to either grant or deny motions depending upon their relative exposure to the six-month list—then it could be the case that motions filed with high reporting time are systematically difference from those filed with low reporting time. It would be similarly problematic if judges manipulated motion filing dates—for example, by issuing a scheduling order—in order to take advantage of the six-month list.

My key identifying assumption can therefore be stated as follows: while judges may allow the six-month list to influence how they adjudicate a motion, they do not preemptively manipulate the timing of motion filings; and, moreover, litigants and lawyers are either unaware of the six-month list or

Figure 4: **Six-month list "Reporting Time" as a function of filing date**



they do not care enough about it to take it into account when they choose a motion filing date. To be sure, this assumption violates some common sense. As we are reminded by Jonah Gelbach, litigants are not "inanimate particles bouncing around and filing motions exogenously," but rather "live parties—who, together with their attorneys, make deliberate, strategic decisions."[91]However, there are several good reasons to believe that litigants do not file motions strategically with respect to the six-month list. First, and perhaps most importantly, litigation is complicated even in the absence of judicial reporting rules, and to predict the impact of motion filing date on a judge's behavior would only complicate things further. In other words, lawyers and litigants are "boundedly rational."[92]Moreover, motion filing dates are often dictated by pre-established filing deadlines, and many motions are dependent upon the occurrence of other events. For example, motions for summary judgment must be filed within 30 days of the completion of discovery,[93] and the completion of discovery is itself likely to be dictated by local court rules and case-specific scheduling orders. It seems unlikely that either judges or litigants are thinking about the intricacies of the six-month list when, several months in advance of a summary judgment motion, they are formulating their discovery plans under Rule 26(f). These fac-

[91]Gelbach, *supra* note 84 at 1668.
[92]Herbert A. Simon, *A Behavioral Model of Rational Choice*, 69 Q. J. ECON. 99 (1955).
[93]FED. R. CIV. P. 56(b).

tors will only be amplified by the many simultaneous cases between which attorneys and judges must typically divide their attention.

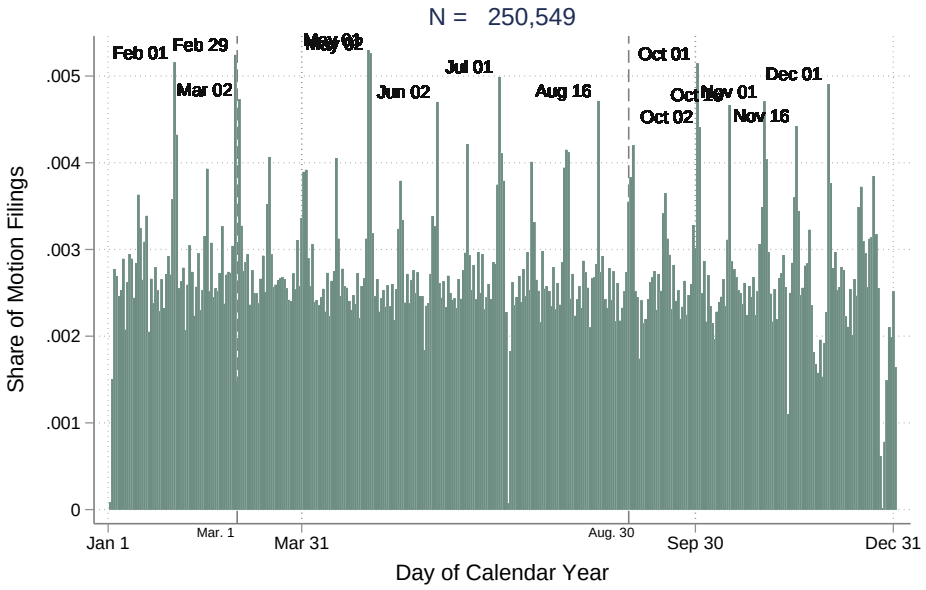
Of course, when possible, the best place to look for support of an identifying assumption is in the data itself. If, contrary to our identifying assumption, motion filings are timed strategically in response to the six-month list, then we might expect to see such a pattern in the data. In fact, no such pattern is discernible. Figure 5 shows a histogram of the empirical distribution of motion filings by calendar day. Calendar dates with unusually high filing counts (more than two standard deviations above the daily mean) are labeled from above. While a pattern does emerge, there is no obvious relationship to the six-month list reporting deadlines. Instead, what we see are merely bi-weekly spikes at approximately the beginning, middle, and end of each month—*regardless* of month—and large dips on or around major federal holidays like January 1st, July 4th, and December 25th. The bi-weekly spikes may reflect law firm customs, where billable hours are often due on a bi-weekly or monthly basis, or it may simply reflect judges' and lawyers' natural tendency to schedule business for certain "anchoring" dates. Regardless, after taking into account these bi-weekly spikes, motion filings appear to be relatively uniform throughout the course of the calendar year.

This point is further illustrated by Figure 6a, which shows a kernel density plot of the raw empirical distribution. In comparison, Figure 6b plots the same empirical distribution after controlling for dummy variables indicating the first, fifteenth, and last day of each month.[94] Neither graph shows any discernible relationship between motion filings and six-month-list cutoff dates.

Stepping back from the formal identifying assumptions, it is worth stating the goal of these assumptions, which is to establish a "control" group of motions that were relatively unexposed to the six-month list against which we can compare the motions that were most exposed. We want to establish that, aside from their exposure to the six-month list, motions in the treatment and control groups are otherwise similar. Reassuringly, Table 3 shows that a variety of *ex ante* motion- and case-level controls are balanced across motions with high and low reporting time. Relative to motions with high reporting time, motions with low reporting time are no more likely to be filed by either the plaintiff or the defendant, they are no more or less likely to be filed in a case with at least one *pro se* litigant, they are no more or less

[94]Specifically, Figure 6b plots the residuals from a linear regression of total motion filings (per calendar day) on dummies for the first, fifteenth, and last day of each month.

Figure 5: **Histogram of Summary Judgment Motion Filings (by calendar day) All Federal Civil Cases, 2005-2014**



likely to be likely to be filed in a case where at least one litigant has sought *in forma pauperis* status, and they share a similar distribution with respect to the nature of the suit. While balance across observable characteristics does not guarantee balance across unobservable characteristics, it does suggest that motions with high reporting time represent a reasonable control group against which to compare motions with relatively low reporting time.

As shown above, the data offer little support for the notion that either judges or litigants are strategically manipulating motion filing dates in order to take advantage of the six-month-list. Nevertheless, an Instrumental Variables strategies may obviate the need for this identifying assumption altogether. Specifically, in future work I intend to use certain milestones in the course of litigation (for example, the date on which the case was filed, or the date on which discovery was initiated or completed) in order to instrument for the date on which a summary judgment motion was actually filed.

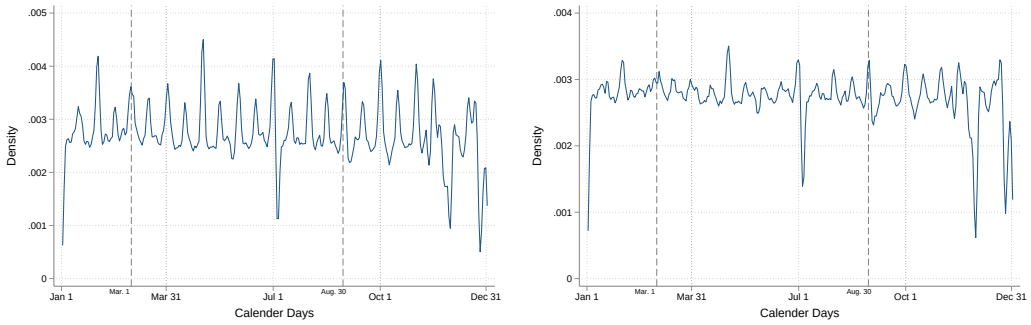
Table 3: Comparison of Means: Low versus High Reporting Time Summary Judgment Motions, All Civil Cases, (2005-2014)

	(1) Low Reporting Time	(2) High Reporting Time	(3) Difference in Means
Reporting Time (months)	8.49	11.51	3.03
	(0.89)	(0.86)	[0.02]***
% Filed by Pltf.	0.29	0.29	0.00
	(0.45)	(0.45)	[0.00]
% Filed by Deft.	0.62	0.62	0.00
	(0.49)	(0.48)	[0.00]
% Pro Se	0.18	0.18	-0.00
	(0.38)	(0.38)	[0.00]
% I.F.P.	0.16	0.16	-0.00
	(0.36)	(0.36)	[0.00]
% Prisoner Rights	0.11	0.10	-0.00
	(0.31)	(0.31)	[0.00]
% Employment Discrim.	0.10	0.10	0.00
	(0.30)	(0.30)	[0.00]
% Personal Injury	0.13	0.13	0.01
	(0.33)	(0.34)	[0.01]
% Soc. Sec.	0.11	0.10	-0.00
	(0.31)	(0.31)	[0.00]
N	235,194	240,646	475,840

This table presents a comparison of means between summary judgment motions with low (i.e. less than 10 months) and high (i.e. at least 10 months) reporting time. Columns (1) and (2) show sample means with standard deviations in parentheses, and column (3) shows differences in means with standard errors in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure 6: **Summary Judgment Motion Filings (by calendar day)**
All Federal Civil Cases, 2005-2014



(a) Raw Motion Filings

(b) Adjusted Motion Filings

The following section translates my basic empirical framework into a series of estimating equations. In particular, I will implement three common econometric techniques: linear regression, regression discontinuity (RD), and proportional hazards regression. While the models vary with respect to technical implementation, they share the same basic function, which is that they can be used to compare the outcomes of motions with high and low reporting time. I also implement a bunching estimator in order to study how the six-month list affects the overall distribution of summary judgment motion adjudications.

B. Empirical Methodology

I first address the effects of the six-month list on what is perhaps the most common measure of judicial productivity and efficiency for trial court judges: mean time until motion disposition. In particular, I would like to know whether exposure to the six-month list causes motions to be adjudicated more quickly. I begin by estimating a linear model of the following general form:

$$\text{Months Until Disposition}_{ijt}^{\overline{T}} = \alpha + \theta \text{Reporting Time}_{ijt} + \mathbf{X}_{ijt}'B + \rho t + \lambda_t + \mu_j + \varepsilon_{ijt} \quad (1)$$

where $\text{Months Until Disposition}_{ijt}^{\overline{T}}$ represents the total number of months that motion i filed before judge j at time t has spent pending at the time of

disposition ($t = \overline{T}$). In other words, what was the motion's total duration? I regress Months Until Disposition on Reporting Time$_{ijt}$, which represents the amount of time the judge has to review the motion before it first becomes eligible for reporting on a six-month list.[95] Included in the baseline regression are a vector of motion- and case-level controls, represented by $\mathbf{X}_{ijt}$, and filing date time trends and fixed effects,[96] represented by ρt and λ_t, respectively. These linear time trends and fixed effects allow me to control for any confounding "calendar effects" that are correlated with but unrelated to the 6-month list—for example, it is conceivable that judges simply wait until the end of a month to take action on pending motions, or perhaps they structure their schedules around holidays.

Basic case- and motion-level controls will include dummies for whether the motion was filed in a case with at least one *pro se* litigant, whether the motion was filed by the plaintiff or defendant, and whether any other summary judgment motions were filed in the same case. My preferred specification includes judge fixed effects (μ_j) as well as nature-of-suit fixed effects, filing year fixed effects, and district court fixed effects.

The coefficient of interest is θ, which measures the effect of an additional month of reporting time on the total months until motion disposition. Conditional on the identifying assumptions stated above, θ represents a causal estimate of the effect of additional reporting time on total case duration.[97]

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[95]Recall from Section IV that "Reporting Time" is a function of motion filing date, and it is completely independent of whether the motion is ever actually reported on a 6-month list. For example, two motions filed on January 1st will both have the same amount of Reporting Time, even if one is terminated the very next day and the other is still pending months later.

[96]In particular, my preferred specification includes filing year and day-of-month fixed effects. While I can include *either* day-of-month or month-of-year fixed effects, I cannot include both, since my variation comes entirely from the day-of-month and month-of-year combination.

[97]Equation 1 assumes that the effect of reporting time is constant (i.e., that each additional month of reporting time has the same treatment effect), but this may not be the case. In order to test this assumption, I will also estimate a model with separate coefficients for each month of reporting time.

$$\text{Months Until Disposition}_{ijt}^{\overline{T}} = \alpha + \sum_{q=8}^{13} \beta_q \mathbb{1}[q < \text{Reporting Time}_{ijt} \leq q+1] + \mathbf{X}_{ijt}'B + \rho t + \lambda_t + \mu_j + \varepsilon_{ijt} \quad (2)$$

One concern related to our regression analysis is that it may suffer from selection bias due to the fact that a motion must be fully adjudicated in order to be included in my sample. Such motions may be systematically different from motions that were still pending at the time of my data collection. I therefore complement my OLS estimates with a Cox proportional hazards model, which leverages my full dataset–including motions with unknown dispositions–in order to estimate the effect of motion reporting time on the rate of motion disposition.[98]

While the above methods provide an obvious starting place for our analysis, they fail to take advantage of one of the most distinctive features of the six-month list, which is the discrete "jump" in reporting time that occurs on both March 1st and August 30th. Recall from Figure 4 that, while motions filed in the final days of February and August enjoy little more than seven months of reporting time, motions filed on or immediately after March 1st and August 30th enjoy almost thirteen months of reporting time. This natural discontinuity in reporting time motivates the use of a Regression Discontinuity (RD) design. An RD-style model is frequently used to study the effects of a policy or intervention when the policy is applied on the basis of some "cutoff" or "threshold" score.[99] Here, by comparing motions filed just prior to March 1st and August 30th with those filed on or just after the cutoff dates, I can obtain causal estimates of the effect of exposure to the six-month list on the speed of adjudication.

The RD procedure can be expressed in a slightly simplified form with the following equation:

$$\text{Months Until Disposition}_{ijt}^{\overline{T}} = \alpha + \beta \text{Non-Reportable}_{ijt} + f(t) + \varepsilon_{ijt}, \quad (4)$$

[98] My basic proportional hazard model takes the following form:

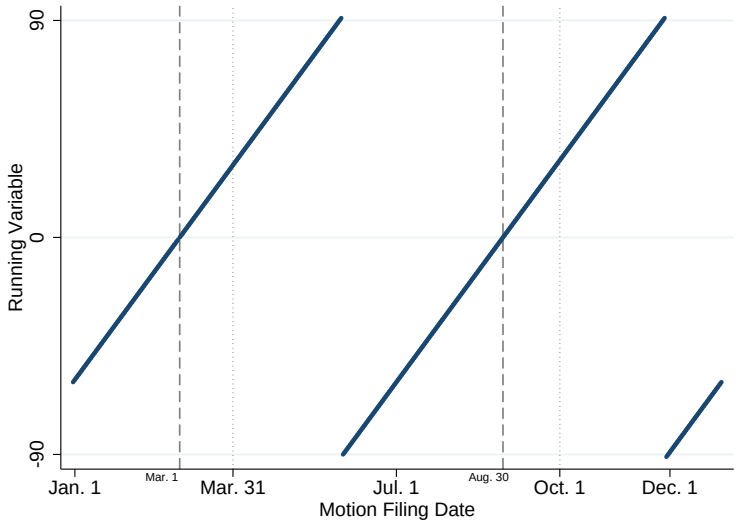
$$\lambda(t) = \lambda_0(t)\exp(\beta \text{Reporting Time}_{ijt} + \mathbf{X}'_{ijt}\Gamma), \quad (3)$$

where $\lambda(t)$ represents the Cox hazard function, Y_{idt} denotes the amount of time before case i filed in district d on date t becomes eligible for publication on a 6-month list, and $\mathbf{X}_{idt}$ is a vector of case-specific controls. The coefficient of interest is β, which reflects the effect of additional review time (i.e. less exposure to the six-month rule) on the log of the hazard ratio.

[99] *See, e.g.*, Douglas Almond, Joseph J. Doyle, Jr., Amande E. Kowalski, & Heidi Williams, *Estimating Marginal Returns to Medical Care: Evidence from At-Risk Newborns*, 125 Q. J. ECON. 591 (2010) (estimating the effects of certain medical interventions by comparing newborns just above and below the 1,500-gram birth weight cutoff used by hospitals for allocating neonatal intensive care resources).

where Non-Reportable$_{ijt} = \mathbb{1}(f(t) \geq 0)$. The function $f(t)$ is a "running variable" that measures the distance between the motion's actual filing date and the two filing dates with maximum reporting time (i.e. March 1st and August 30th). The function is slightly negative for motions filed just before March 1st or August 30th and slightly positive for motions filed just after those dates. This can be seen graphically in Figure 7, below, which plots the running variable $f(t)$ as a function of filing date. Since the filing date cut-offs are semi-annual, no day of the year is more than approximately ninety days distant from the nearest cutoff, and the running variable therefore varies between -90 and 90.

Figure 7: **Running Variable as a Function of Filing Date**



Regression discontinuity designs are subject to a few specific identifying assumptions. In particular, the key assumption of an RD design is that the underlying conditional expectation functions $\mathbb{E}[Y_i(1)|X]$ and $\mathbb{E}[Y_i(0)|X]$ are continuous across the cutoff in the forcing variable X.[100] In my setting, this is equivalent to saying that unobservable factors are continuously related to the running variable $f(t)$, including at the cutoff dates. While there is no direct test for this "continuity assumption," it is likely to be met when the distribution of observed baseline covariates does not change discontin-

[100] Guido W. Imbens & Thomas Lemieux, *Regression Discontinuity Designs: A Guide to Practice*, 142 J. ECONOMETRICS 615, 618 (2008).

uously at the threshold.[101] In fact, as shown in Appendix Figure 18, several baseline covariates do appear to be distributed continuously at the threshold.[102]

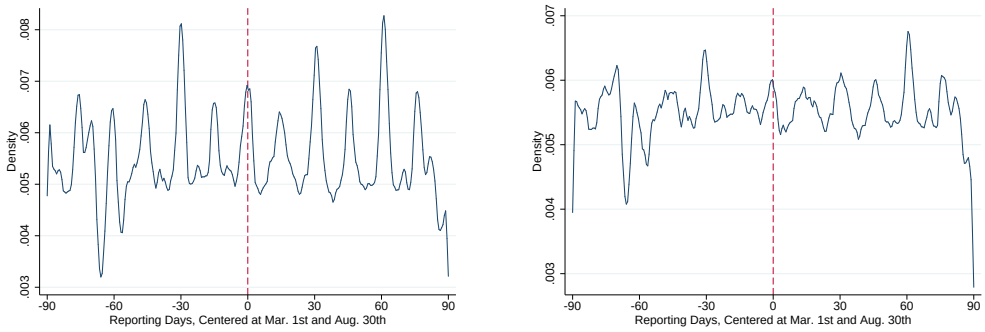
A related assumption of RD designs is that agents do not have precise control over the running variable. In other words, it must be that agents cannot "manipulate" their treatment status. Here, the running variable is a function of the motion filing date, which litigants obviously *can* manipulate. However, for the reasons stated above, it is reasonable to assume that litigants do not have precise control over their filing date, and to the extent that they do, they are nevertheless unlikely to manipulate their filing date in order to take advantage of the timing of the six-month list. This proposition is supported by Figures 8a and 8b, which show the empirical distribution of summary judgment motion filings by filing date, where the filing date has been transformed into the RD running variable $f(t)$. Figure 8a shows the raw distribution of motion filing dates, while Figure 8b shows the adjusted distribution after controlling for dummies for the first, fifteenth, and last day of each month. If there were manipulation of the running variable, then we might expect to see bunching of summary judgment motions filed immediately before, on, or immediately after the cutoff. While both figures continue to show the same bi-weekly spikes that were observable in Figure 5, there does not appear to be any unusual bunching at or near the cutoff

[101] David S. Lee & Thomas Lemieux, *Regression Discontinuity Designs in Economics*, 48 J. ECON. LITERATURE 281, 292 (2010).

[102] Recent research suggests that the regression discontinuity design is subject to several unique pitfalls when time is used as the running variable. Catherine Hausman & David S. Rapson, *Regression Discontinuity in Time: Considerations for Empirical Applications*, 10 ANN. REV. RESOURCE ECON. 533 (2018). In particular, the "regression discontinuity in time" (or "RDiT") approach is conceptually and practically distinct from the traditional cross-sectional regression discontinuity design because it typically relies on time-series variation for identification. As a result, the RDiT design often leverages observations far from the threshold and often ignores autoregression in the data generating process. Moreover, since time is uniformly distributed, McCrary tests are often irrelevant in an RDiT context. I argue that my context actually shares more in common with a conventional cross-sectional RD than it does with an RDiT. In particular, since hundreds or thousands or motions can be filed each day, I am able to leverage a great deal of cross-sectional variation close to the threshold. Moreover, since *motion filings* are not uniformly distributed across time, and because I argue that filing dates are locally random in the neighborhood of the threshold, manipulation tests continue to be highly relevant.

dates.[103] A more formal test of manipulation[104] similarly fails to reject the null hypothesis of no manipulation.[105]

Figure 8: **Distribution of Motion Filings by RD Running Variable**



(a) Raw Motion Filings

(b) Adjusted Motion Filings

The models described above allow me to explore the effect of the six-month list on the speed with which motions are adjudicated, but in addition to speed, I am also interested in the six-month list's effects on the *quality* of adjudication. Intuitively, if exposure to the six-month list causes a judge to adjudicate a motion more quickly, it may also affect *how* she disposes of the motion. Quality is an admittedly vague concept, and it can mean many things in the context of civil adjudication. From current and future litigants' perspective, quality may refer to the degree of substantive or procedural fairness accorded to the parties. From the court administrator's perspective, quality may refer to the efficient allocation of judicial re-

[103] That is, although there is some bunching directly at the cutoffs, the bunching appears to be approximately identical to the bunching that occurs throughout the year on an approximately bi-weekly basis.

[104] Justin McCrary, *Manipulation of the Running Variable in the Regression Discontinuity Design: A Density Test*, 142 J. ECONOMETRICS 698 (2008).

[105] At least in theory, even if we see no evidence of manipulation in the aggregate, it could nonetheless be the case that different types of litigants have different (and offsetting) strategic incentives. For example, perhaps defendants in employment discrimination suits tend to file when reporting time is high, because they want to draw out the litigation, whereas plaintiffs want a quick resolution, so they file when reporting time is low. If these two tendencies balance one another out, then in the aggregate, it might appear is if there is no manipulation. My McCrary test results are robust to various sub-samples (for example, restricting to certain case types or restricting to motions filed by defendants only), which suggests that offsetting manipulation is not a problem here.

sources. Neither notion of quality is easy to measure, nor are they entirely distinct. As preliminary evidence of quality effects, I will look for whether the six-month list had any effect on motion-level outcomes. In particular, I will ask whether motions that were more exposed to the six-month list were either more or less likely to be granted, denied, or granted in part, and whether they were more or less likely to result in a judgment favorable to either the plaintiff or the defendant. Intuitively, if the only effect of the six-month list was to expedite adjudications, then we would not expect to see any change in motion outcomes. While these indicators provide little in the way of a priori evidence for effects on quality—since it is impossible to say how these motions should have been decided in the first place, it is hard to say whether the result was higher or lower quality decisions—they are at least somewhat probative. In addition to the above outcomes, I will also ask whether motions that were more exposed to the six-month list were either more or less likely to result in an appeal, and whether there was an effect on the outcome of the appeal (e.g. whether the Court of Appeals affirmed, reversed, or remanded to the district court). These outcomes are slightly easier to interpret. While we cannot say whether a motion should or should have not been appealed, it is uncontroversial to say that a goal of the justice system is to reduce the need for appeals. Moreover, reversals and remands offer fairly direct evidence that the district court's initial judgment was either improper or inadequate.

Empirically, the goal will be to identify the causal effect of exposure to the six-month list on the likelihood of various motion-level and appellate outcomes. Specifically, I estimate a linear probability model identical in form to equation (1), except that the left-hand-side variable is replaced with a dummy variable for the outcome (e.g., whether or not the motion was granted). I also use the regression discontinuity specification from equation (4) in order to look for evidence of an effect on motion-level outcomes in the vicinity of the reporting time discontinuities.

C. Counterfactual analysis with bunching estimators

A key challenge of the above-described methods is that they provide limited opportunities for counterfactual analysis. OLS provides credible estimates of the causal effect of an additional month of reporting time on time-until-disposition and other motion-level outcomes, and the RD design provides convincing estimates of the effect of six additional months of reporting time (due to having filed just before or just after the March 1st and August 30th cutoff dates), but we might be interested in more extreme counterfactuals.

What might happen to judges' disposition times, for example, if the six-month list were eliminated altogether, and how does that compare to the current regime? Or, stated differently, when we combine the summary judgment dispositions of all district court judges in a given year, what is the *total amount* of time-savings attributable to the six-month list? I attempt to answer this question by constructing a series of bunching estimators which, together, can be used to characterize the likely distribution of motion disposition times in a counterfactual world without the six-month list.

Bunching techniques were pioneered in the empirical taxation literature, where they took their name from name from discontinuities in the tax schedule that induce "bunching" at discrete income or wealth thresholds.[106] Bunching behavior is frequently due to kinks in agents' budget sets–i.e., discrete thresholds at which the marginal cost of certain behavior changes discontinuously, like changes to the marginal tax rate–but it can also occur due to "notches" in the budget set–that is, thresholds at which the absolute level of a cost changes discontinuously, like changes to the average tax rate.

The six-month list presents an example of a notch in judges' incentives. Specifically, the six-month list means that the cost of adjudicatory delay changes discontinuously at the six-month list reporting deadlines. When a motion has been pending for just four or five months, there is little cost from the judge's perspective to delaying her disposition, and there is similarly little benefit to expediting her disposition. The same is true when a motion is already overdue. When a pending motion is near the deadlines, however, the professional cost of delay is potentially severe, and conversely, the professional benefit of expeditiousness is potentially dramatic. This creates the patterns of motion adjudication that we observed in Figure 1, where judges noticeably bunch at the March 31st and September 30th deadlines. Bunching estimators are designed to simulate what the counterfactual distribution of outcomes would look like in the absence of kinks or notches, and thus, in the absence of bunching.

Relative to other applications of the bunching estimator, my setting creates a number of unique challenges and opportunities. Most applications of the bunching estimator analyze kinks or notches at a finite number of universally-applicable thresholds.In one recent application, for example, researchers analyzed the effect of a single emergency room wait time target—

[106] *See, e.g.*, Emmanuel Saez, *Do Taxpayers Bunch at Kink Points?*, 2 AM. ECON. J.: ECON. POL'Y 180 (2010); Raj Chetty, John N. Friedman, Tore Olsen & Luigi Pistaferri, *Adjustment Costs, Firm Responses, and Micro vs. Macro Labor Supply Elasticities: Evidence from Danish Tax Records*, 126. Q. J. ECON. 749.

penalizing hospitals for each patient who waited four hours or longer—on wait times and treatment outcomes in the United Kingdom.[107] As discussed above, however, motions are differentially exposed to the six-month list depending upon the day of the year on which they were filed. Thus, while a motion filed on March 1st or August 30th enjoys almost thirteen months of reporting time, motions filed on February 28th or August 29th enjoy just seven months of reporting time. This effectively creates more than 180 *different* notches, each applicable only to the motions filed on the same two calendar days each year. Because the effect of the six-month list will tend to vary with the stringency of the deadline, I implement separate bunching estimators for separate amounts of reporting time, and I subsequently combine my estimates in order to arrive a single estimated counterfactual distribution for all motions.

Formally, let d represent the number of days a motion has been pending at the time of its disposition, and let $f_1^l(d)$ represent the probability density function of d for motions with reporting time l. The overall distribution of motion durations $f_1(d) = \sum_{l \in L} f_1^l(d)$ is obtained by summing across the set of possible reporting times. The six-month list induces bunching of motion dispositions at the six-month list deadline, denoted by d^*. The goal of the bunching estimator is to use the observed data, generated by $f_1^l(d)$, to obtain an estimate of the counterfactual distribution of d in the absence of the six-month list, denoted $f_0(d)$. It is worth emphasizing that, while the observed distributions $f_1^l(d)$ will vary with reporting time l, we assume that the same counterfactual $f_0(d)$ distribution would apply to all motions. Intuitively, in the absence of the six-month list, is does not matter on which day of the year a motion was filed.

My estimation strategy is adapted from a standard notch-based bunching estimator.[108] I first group motion dispositions into five-day bins indexed by j–for example, motions decided in five days or less, motions decided in six to ten days, and so on–and then I estimate the counterfactual distribution with a non-parametric regression of the following form:

[107] Jonathan Gruber, Thomas P. Hoe & George Stoye, *Saving Lives by Tying Hands: The Unexpected Effects of Constraining Health Care Providers* (Nat'l Bureau of Econ. Research, Working Paper No. 24445, 2018).

[108] *See* Henrik J. Kleven & Mazhar Waseem, *Using Notches to Uncover Optimization Frictions and Structural Elasticities: Theory and Evidence from Pakistan*, 128 Q. J. ECON. 669 (2013); Henrik J. Kleven, *Bunching*, 8 ANN. REV. ECON. 435 (2016).

$$c_j^l = \sum_{i=0}^{p} \beta_i^l \cdot (d_j)^i + \sum_{i=d_-}^{d_+} \gamma_i^l \cdot \mathbb{1}[d_j = i] + \sum_{r \in R} \rho_r^l \cdot \mathbb{1}\left[\frac{d_j}{r} \in \mathbb{N}\right] + \nu_j^l, \tag{5}$$

where c_j^l is the number of individual motions with reporting time l disposed of in bin j, d_j is the maximum duration of a motion disposed of in bin j (for example, $d_j = 5$ for motions adjudicated in 1–5, $d_j = 10$ for motions decided in 6–10 days, and so on), and p is the order of the polynomial. The term $\sum_{r \in R} \rho_r \cdot \mathbb{1}\left[\frac{d_j}{r} \in \mathbb{N}\right]$ reflects the inclusion of round-number fixed effects. These are necessary to account for the fact that dispositions tend to spike on multiples of seven, 30, and 365.

The range $[d_-, d_+]$ is the "excluded window" of excess and missing mass around the notch point d^*. The key assumption of the bunching estimator is that bunching responses are entirely confined to the excluded window. In the context of the six-month list, the assumption is that motions will only bunch at the deadline d^* if their counterfactual duration is either slightly less or slightly more than what is required by the six-month list deadline. For example, we assume that judges might respond to the six-month list's March 31st deadline by postponing dispositions that otherwise would have occurred in late February or early March, and they might similarly respond by expediting dispositions that otherwise would have occurred in April or May; they are unlikely, however, to postpone a disposition from, say, December to March, and they are unlikely to expedite a disposition that would not otherwise have occurred until, say, August. This is a relatively strong assumption, and it is likely most defensible for motions filed just prior to March 1st and August 30th (i.e. those with maximum reporting time). Specifically, when judges have a full 13 months to review a motion before it becomes eligible for the six-month list, the pull of the six-month list is at its weakest. It is reasonable to assume that, during the first several months of a motion's pendency, judicial behavior will not be greatly affected by a deadline that is still many months away. Somewhat more intuitively, it is reasonable to believe that there is little difference between a distant deadline that hardly ever binds and a regime with not deadline at all.

The estimate of the counterfactual distribution is defined as the predicted values of equation (6) *omitting the contribution of the excluded window dummies* so that $\hat{c}_j^l = \sum_{i=0}^{p} \hat{\beta}_i \cdot (d_j)^i$. I depart from the Kleven and Waseem

method,[109] which chooses the lower bound of the exclusion window d_- by visual inspection, by implementing a Quandt Likelihood Ratio (QLR) test. The QLR test is frequently used to identify structural breaks in time-series data. For my purposes, the QLR test identifies the duration bin d_- where dispositions have most strongly broken from their pre-existing trend. The upper bound d_+ chosen recursively by starting at an initial value $d_+^0 \approx d^*$, estimating equation (6), and increasing d_+ by small increments until we identify the value of d_+ that minimizes the difference between estimated excess mass $\hat{B}$ in the range $[d_-, d^*]$ and estimated missing mass $\hat{M}$ in the range $[d^*, d_+]$.

Bunching estimators are frequently used to estimate structural elasticities– for example, in the tax literature, the compensated elasticity of labor supply– but my application of the bunching estimator is motivated by a purely reduced form question. Namely, I aim to estimate the counterfactual distribution of motion disposition times in the absence of the six-month list. I will therefore focus on estimating a single statistic

$$T/\hat{T} = \frac{\sum_{j \in J} \sum_{l \in L} c_j^l \cdot d_j}{\sum_{j \in J} \sum_{l \in L} \hat{c}_j^l \cdot d_j}, \tag{6}$$

which represents the ratio of actual total disposition for all summary judgment motions filed between 2005 and 2014 to the estimated total counterfactual disposition time for the same motions in the absence of the six-month list. A value of less than one suggests that the six-month list has reduced aggregate disposition times relative to the scenario without a six-month list, and a value of greater than one suggests that the six-month list has actually slowed aggregate dispositions.

V. RESULTS & DISCUSSION

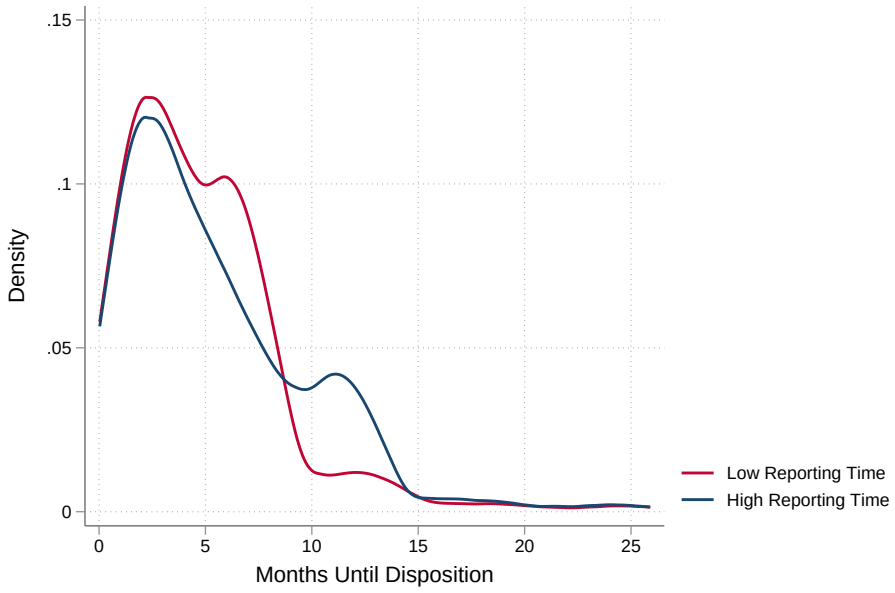
A. How Does the Six-Month List Affect the Speed of Adjudication?

I first present evidence of the effect of relative exposure to the six-month list on the speed of adjudication. Without even introducing the regression results, a single graph makes the key point: summary judgment motions that are most exposed to the six-month list are adjudicated much more quickly. Figure 9 shows kernel density plots of the empirical distributions of motion duration by relative reporting time. The red curve corresponds to motions

[109] *Supra* note 108.

with low (fewer than eight months) reporting time, and the blue curve corresponds to motions with high (greater than twelve months) reporting time. What stands out is that motions with low reporting time are considerably more likely to be adjudicated in fewer than ten months. While the modal motion duration for low-reporting-time motions is fewer than six months, there appears to be something like a bi-modal distribution, with the second peak at approximately eight months—that is, exactly when the motions are due for the six-month list. In fact, the high-reporting-time motions follow a similar distribution, except that the distribution appears to be stretched out over a larger interval. While the modal motion duration for high-reporting-time motions is fewer than six months, the second peak now occurs at approximately twelve months—again, exactly when the motions are due for the six-month list.

Figure 9: **Distribution of Motion Duration, by Relative Reporting Time**



Next we consider the regression results, which allows us to quantify the effect observed in Figure 9. Table 4 presents OLS estimates of equation (1). Columns (1)-(4) correspond to various combinations of controls. We will focus on column (4), which includes various linear time trends (for day of year, day of quarter, and day of month), district*year fixed effects, and day-of-month fixed effects, but the results are robust across specifications.

Table 4: **Effect of Reporting Time on Months Until Motion Disposition Summary Judgment Motions, All Civil Cases (2005-2014)**

	(1)	(2)	(3)	(4)
Months until Report	0.130***	0.131***	0.130***	0.129***
	(0.005)	(0.005)	(0.005)	(0.005)
Observations	250,063	250,063	250,057	250,057
Case & Motion Controls	Yes	Yes	Yes	Yes
Calendar Trends		Yes	Yes	Yes
District*Year FEs			Yes	Yes
Day-of-Month FEs				Yes
Mean of Dep. Variable	5.36	5.36	5.36	5.36
Mean of Indep. Var.	10.03	10.03	10.03	10.03

This table presents OLS estimates of the effect of additional reporting time on months until motion disposition. Reporting time is measured in the number of months between the day on which a motion was filed and the earliest possible date on which it could appear on a CJRA 6-month report. All columns include basic case- and motion-level controls, including a dummy for the party (plaintiff or defendant) filing the motion and nature-of-suit, judge, district, and filing-year fixed effects. Robust standard errors are in parentheses.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Column (4) tells us that, on average, each additional month of reporting time corresponds to ~ 0.13 additional months of total motion duration. Extrapolating linearly, since the least exposed motions enjoy an additional six months of reporting time relative to the most exposed motions, we can infer that the most exposed motions are adjudicated approximately 0.8 months sooner than those that are least exposed. Compared to the mean summary judgment motion duration of 5.36 months, this represents a nearly 15% effect.

Of course, from the perspective of both the litigants and the court administrators, one might suspect that what really matters is time until overall *case* disposition, and not merely time until motion disposition. In fact, here too we see substantial effects on the speed of justice. Table 5 presents OLS results where we replace the left-hand-side of equation (1) with months until overall case disposition. The variation on the right-hand-side still comes from the motion-level reporting time. The OLS results indicate that, on average, each additional month of summary judgment *motion* reporting time corresponds to ~ 0.07 additional months of total *case* duration. Once again multiplying this effect by six, it appears that, when a summary judgment motion is most exposed to the six-month list, the overall case of which it is

a part lasts almost half a month longer. Compared to the mean case disposition time of approximately 23 months, this represents a nearly 2% effect.

Table 5: **Effect of Motion Reporting Time on Months Until Case Disposition Summary Judgment Motions, All Civil Cases (2005-2014)**

	(1)	(2)	(3)	(4)
Months until Report	0.077***	0.071***	0.077***	0.072***
	(0.016)	(0.017)	(0.017)	(0.017)
Observations	249,552	249,552	249,546	249,546
Case & Motion Controls	Yes	Yes	Yes	Yes
Calendar Trends		Yes	Yes	Yes
District*Year FEs			Yes	Yes
Day-of-Month FEs				Yes
Mean of Dep. Var.	23.38	23.38	23.37	23.37
Mean of Indep. Var.	10.04	10.04	10.04	10.04

This table presents OLS estimates of the effect of additional motion reporting time on months until overall case disposition. Reporting time is measured in the number of months between the day on which a motion was filed and the earliest possible date on which it could appear on a CJRA 6-month report. All columns include basic case- and motion-level controls, including a dummy for the party (plaintiff or defendant) filing the motion and nature-of-suit, judge, district, and filing-year fixed effects. Robust standard errors are in parentheses.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

One might question the assumption of linearity—that is, does each additional month of reporting time really have the same effect on the speed of adjudication? The answer is that, while the relationship between reporting time and speed of motion adjudication may not be quite linear, it is at least monotonically increasing. Appendix Figure 19a plots the coefficients β_q from the non-parametric model in equation (2). Whereas motions with between eight and nine months of reporting time last only about 0.14 months longer than motions with less than eight months of reporting time, motions with between twelve and thirteen months of reporting time last more than 0.7 months longer.

The results in Table 4 and Figure 19a are estimated from a sample of approximately 250,000 summary judgment motions. By construction, in order to know their final duration, the motions in this sample had to be fully adjudicated. As discussed in Section IV, a proportional hazard model (like the one shown in equation (3)) allows us to leverage the full sample of nearly 500,000 motions, whether or not they have been fully adjudicated. The proportional hazards model therefore alleviates any concerns

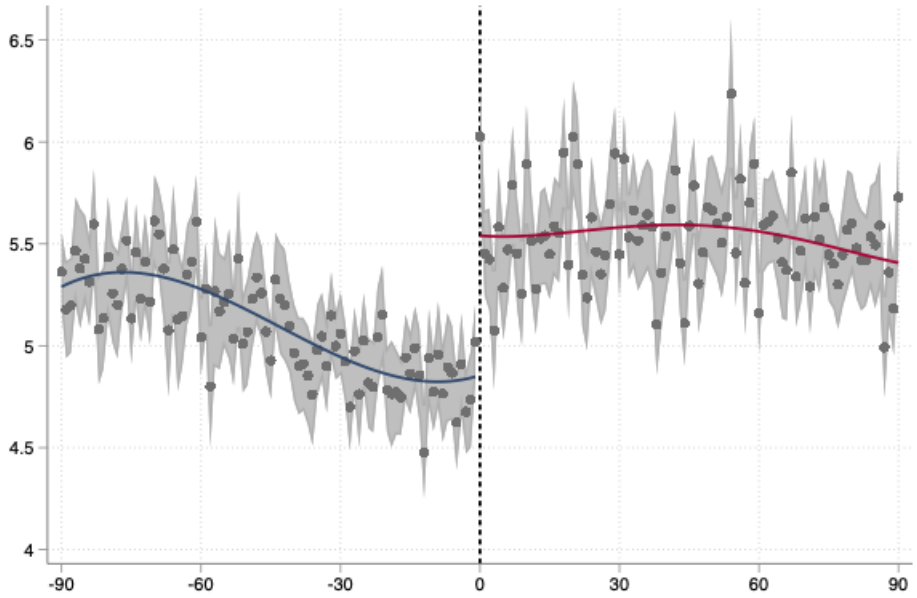
over survivorship bias. In fact, Appendix Table 15 shows that the effect of the six-month list on motion duration are equally apparent in a proportional hazards model. In particular, the hazard rate of motion disposition decreases significantly with each additional month of reporting time. In other words, motions that are less exposed to the six-month list are disposed of at a slower rate.

Next we consider results from the regression discontinuity design. Recall from Figure 4 that motions experience a large, discontinuous jump in reporting time on March 1st and August 30th. Motions filed just one day prior enjoy only seven months of reporting time compared to thirteen months of reporting time for motions filed on or immediately after those dates. If reporting time is as influential for motion duration as I hypothesize, then we would expect to see a similarly discontinuous jump in motion duration at the same filing date cutoffs. In fact, that is exactly what we see. Figure 10 the average motion duration for each value of the running variable. The figure is centered at a running variable value of zero, which corresponds to motions filed on March 1s and August 30th. The figure shows a dramatic upward jump in average disposition times at exactly these dates. Table 6 quantifies the effect. While the estimates vary according to modeling assumptions and chosen bandwidths, the results are roughly consistent with the inferences we made from the OLS estimates. Namely, the most exposed motions are adjudicated up to 0.8 months faster than those that are least exposed to the six-month list.

B. How Does the Six-Month List Affect the Quality of Adjudication?

So far we have seen powerful evidence that the six-month list does indeed expedite the adjudication of summary judgment motions. This result is consistent with the notion that judges may believe their future career prospects partially depend on compliance with the six-month list. But what does exposure to the six-month list entail for the *quality* of adjudication? Judge's concern for their future career prospects is enough to predict an impact on the speed of adjudication, but it may not tell us much about the impact on the quality of adjudication. Recall from Section II that our predictions for adjudicatory quality will likely depend upon the model that we have of judicial behavior. The model predicts that whether judges tend to compromise quality for speed is likely to turn on a number of factors, including: 1) the degree to which judges procrastinate, 2) the degree to which judges feel rewarded for the amount of care and effort they invest in motions, and 3) the substitutability of speed and quality.

Figure 10: **Average Months Until Motion Disposition by RD Running Variable**



In fact, I find only mixed evidence to suggest that exposure to the six-month list affects how judges dispose of the summary judgment motions before them. At most, the effects appear to be relatively small. Table 7 presents linear probability model estimates of the effect of additional six-month list reporting time on various motion-level and appellate outcomes.[110] Since the legal significance of these outcomes is likely to depend upon which party filed the motion—a summary judgment filed by the defendant is more likely to be fully dispositive of the entire case, for example—I choose to restrict the sample to motions filed by the defendant, which are more common.

[110]It should be noted that columns (3)-(5), which report appellate outcomes, are conditioned on the outcome of the motion itself—that is, whether the district court granted, denied, granted-in-part, or otherwise disposed of the motion. Since appeals are more likely to be filed when a summary judgment motion is granted, and since the Court of Appeals is more likely to affirm when a summary judgment motion has been granted, the conditional effects reported in columns (3)-(5) tell us whether there is something else about motions with greater reporting time that make them more or less likely to result in a particular appellate outcome.

Table 6: **Regression Discontinuity Estimates**
Effect of Reporting Time on Average Months Until Disposition

	Parametric			Local Linear	
	(1)	(2)	(3)	(4)	(5)
	Linear	Quadratic	Cubic	MSE Bandwidth	CER Bandwidth
Filed After Cutoff	0.869***	0.803***	0.764***	0.717***	0.780***
	[0.037]	[0.055]	[0.075]	[0.087]	[0.115]
Mean of Dep. Variable	5.32	5.32	5.32	5.22	5.26
Observations	248,024	248,024	248,024	248,024	248,024

This table presents regression discontinuity (RD) estimates of the effect of additional reporting time on total case duration. The running variable represents the case filing date relative to the six-month list eligibility cutoff. Cases filed just before the cutoff are eligible for the current six month list, whereas cases filed just after the cutoff have an additional six months before they might appear on a list. Columns (1)-(3) are estimated parimetrically with linear, quadratic, and cubic polynomials, respectives. Columns (4)-(5) are estimated non-parametrically with local linear regressions, using mean-squared error (MSE) and coverage error rate (CER) optimal methods of optimal bandwidth selection, respectively. All columns include basic case- and motion-level controls, including a dummy for the party (plaintiff or defendant) filing the motion and nature-of-suit, judge, district, and filing-year fixed effects. Since the regression pools motions filed just before and just after either of two semi-annual lists (i.e. the March 31st and September 30th list), also included is a dummy indicating which semi-annual list provides the relevant cut-off date.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

What is immediately apparent is that, in comparison to the effects on the speed of adjudication, the effects on motion and appellate outcomes are small and relatively imprecisely estimated. We do observe what appear to be modest effects on summary judgment grant rates—for each additional month of reporting time, motions are approximately 0.18 percentage points more likely to be granted—but the estimate is only marginally significant. This result is robust to various specifications of the OLS model, and it is also robust to the choice of Logit and Probit models.

The judicial multitasking model discussed in Section II predicts an effect on the grant rate and other motion-level outcomes, but it does not predict the sign (either positive or negative) or magnitude of these effects. Nonetheless, it does make some intuitive sense that summary judgment grant rates would tend to increase with the amount of reporting time. Summary judgments are dispositive motions, at least with respect to certain parties or claims. Whereas an order granting summary judgment often disposes of the case altogether, an order denying, granting in part, or otherwise dismissing a summary judgment typically means that the parties live to fight another

Table 7: **Effect of Motion Reporting Time on Probability of Selected Motion & Appellate Outcomes**

Sample: Motions filed by Defendants Only

	Motion Outcomes		Appellate Outcomes		
	(1) Granted	(2) Denied	(3) Appealed	(4) Affirmed	(5) Reversed
Months until Report	0.0018**	-0.0009	-0.0001	0.0039***	-0.0002
	[0.0007]	[0.0006]	[0.0006]	[0.0015]	[0.0008]
Observations	157,610	157,610	157,610	42,406	42,406
Case & Motion Controls	Yes	Yes	Yes	Yes	Yes
Calendar Trends	Yes	Yes	Yes	Yes	Yes
District*Year FEs	Yes	Yes	Yes	Yes	Yes
Day-of-Month FEs	Yes	Yes	Yes	Yes	Yes
Motion Outcome Dummies	No	No	Yes	Yes	Yes
Mean of Dep. Var.	.57	.24	.27	.45	.07
Mean of Indep. Var.	10.01	10.01	10.01	10.02	10.02

This table presents OLS estimates of the effect of additional reporting time on probability of various motion-level outcomes for summary judgment motions filed by a defendant. All samples are restricted to motions filed by defendants. Reporting time is measured in the number of months between the day on which a motion was filed and the earliest possible date on which it could appear on a CJRA 6-month report. All columns include basic case- and motion-level controls, including nature-of-suit, judge, district, and filing-year fixed effects. Robust standard errors are in parentheses.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

day. Judges may therefore view orders to deny, grant in part, or moot as the more conservative course of action, relative to an order to grant. Moreover, the decision to grant the motion may simply entail more work. Although Rule 56 of the Federal Rules of Civil Procedure requires that judges must "state on the record the reasons for granting or denying the motion,"[111] judges typically only write lengthy decisions when they are granting a motion for summary judgment.[112]As a result, judges who are under pressure to meet a deadline imposed by the six-month list may choose to deny or dismiss the motion in order to avoid the extra risk and extra work associated with an order to grant.[113]

Still, the estimated effect on grant rate should be interpreted with caution, especially because it is not robust to the regression discontinuity analysis. Figure 20a shows an RD plot of the effect of additional reporting time on summary judgment grant rate, and Appendix Table 13 and Appendix Figure 20 show RD estimates and plots for various motion-level outcomes. Visual inspection of the RD plot shows at best a slight correlation between reporting time and the probability that a motion is granted—that is, reading the graph from left to right on either side of the cutoff, we see that the grant rate is very slightly downward sloping, suggesting that judges are somewhat less likely to grant motions as their reporting time narrows—and there is no evidence of a meaningful effect at the discontinuity. In fact, Table **??** shows that the grant rate actually *declines* at the reporting time discontinuity, when motions suddenly jump from approximately 7 to approximately 13 months of reporting time.

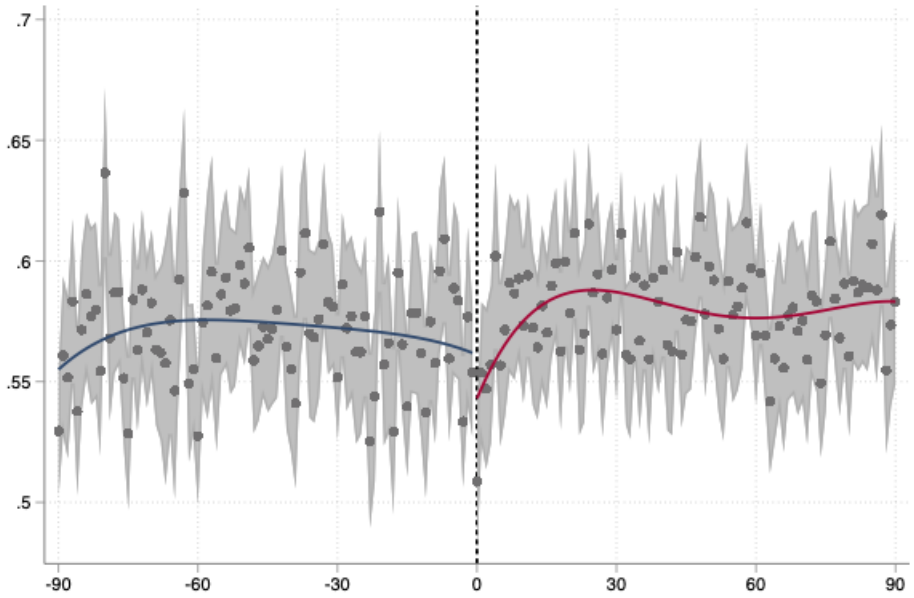
The results on appellate outcomes are somewhat more dramatic. While six-month list reporting time has no effect on the rate at which judgments are appealed, it does appear that, conditional on an appeal being filed, the circuit court is more likely to affirm the district court's ruling in cases involving motions that were less exposed to the six-month list (i.e. with more reporting time). The linear probability model estimates (column 4 of Table

[111]FED. R. CIV. P. 56(a).

[112]Nancy Gertner, *Losers' Rules*, 122 YALE L.J. ONLINE 109 (2012), http://yalelawjournal.org/forum/losers-rules.

[113]That the effects on orders to deny, grant in part, and moot are all small and statistically insignificant may reflect the fact that, whereas all three courses of action allow the case to proceed in one way or another, only the order to grant fully disposes of case. In other words, the opposite of an order to grant is not simply an order to deny, but rather any order *other than* an order to grant. If the effect is dispersed across all three courses of action, then any one of these effects will be smaller and more difficult to detect with statistical precision.

Figure 11: **% Motions Granted by RD Running Variable**

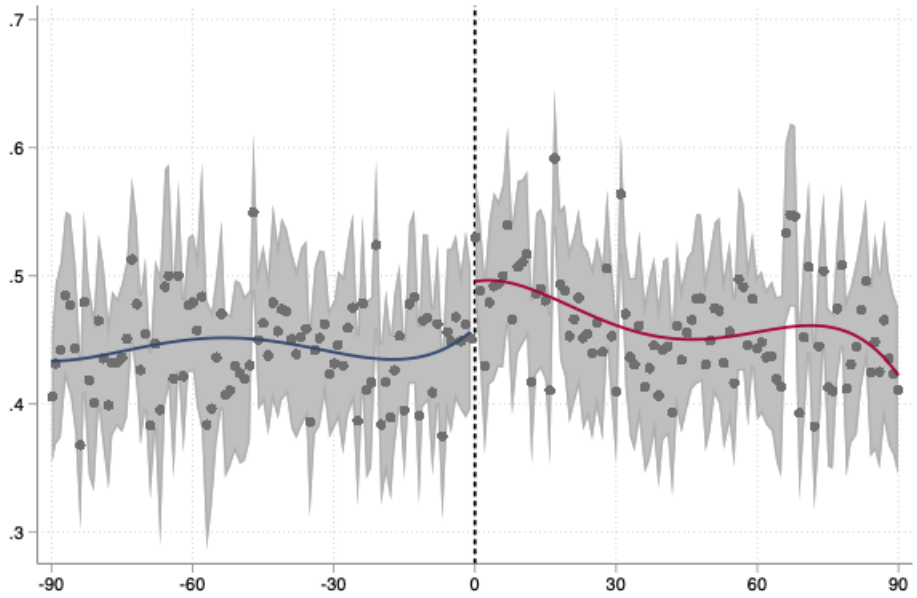


7) suggest that, on average, the district court is 0.39 percentage points more likely to be affirmed for each additional month of reporting time.

Unlike the effect on grant rate, the effect on affirmance rate is robust to an RD specification. Figure 20e shows an RD plot of the effect of reporting time on affirmance rate, and Appendix Table 14 presents corresponding RD estimates. The plot shows a relatively striking visual discontinuity at the reporting time cutoff, and the RD estimates suggest that district court rulings are approximately 0.7 percentage points more likely to be affirmed when related to a summary judgment motion with maximum ($\sim$ 13 months) as opposed to minimum ($\sim$ 13 months) reporting time. This represents a 10% increase relative to the baseline affirmance rate of just 7%.

As a final piece of evidence on the quality of adjudications, I consider how exposure to the six-month list affects the speed of overall case dispositions. We have already seen (in Table 4 and elsewhere) that exposure to the six-month list tends to expedite motion dispositions. Moreover, as shown by Table 5, faster motion processing does indeed translate into faster case processing. However, it is striking that the coefficients presented in Table 5 are quite a bit smaller than the coefficients presented in Table4. In other

Figure 12: **% Affirmed on Appeal by RD Running Variable**



words, it appears that a month saved in the summary judgment phase *does not* translate into a full month of savings in overall case disposition time.

This observation motivates the following exercise, which attempts to dig more deeply into how the six-month list affects overall case processing. We can think of the six-month list as having two types of effects on overall case processing. First, there is the "direct" effect on motion processing. Ordinarily, the sooner a motion is decided, the sooner the overall case is decided. If all that mattered were the direct effect, then we would anticipate a one-for-one relationship between time until motion disposition and time until case disposition. However, the six-month list may also have "indirect" effects on case processing. The effects could go in either direction. For example, if exposure to the six-month list caused judges to resolve certain factual or legal questions in a way that narrows issues still in dispute, then that might tend to expedite the trial phase of the proceeding, even after the summary judgment phase has been decided. If that were the case, then a month saved in the summary judgment phase might actually translate to more than a month saved in overall case disposition time. Alternatively, if exposure to the six-month list causes the judge to "cut corners" during the summary judgment

phase—for example, postponing certain factual or legal questions until later in the course of proceedings—then we might expect a month saved in the summary judgment phase may not translate into more than a full month of savings in overall case disposition time. In fact, if judges tend to reallocate work in an inefficient manner (e.g., postponing the resolution of some question until later in the proceedings when it is more time-consuming to resolve), then a month saved in the summary judgment phase may even translate into *less* than a month saved in overall case disposition time.

Column (1) of Table 8 reproduces the main result from column (1) of Table 5. Recall that the regression is based on equation (1), except that the left-hand-side variable is not months until motion disposition, but rather months until case disposition. Column (1) shows that, on average, each additional month of summary judgment *motion* reporting time corresponds to ~ 0.072 additional months of total *case* duration. But how much of that effect is attributable to the direct effect on motion processing, and how much is attributable to indirect effects on other aspects of the case proceedings? Columns (2) and (3) attempt to decompose the overall effect into its constituent parts. Column (2) copies the specification from column (1), except that it controls for duration of the motion itself. This effectively controls for the direct effect, so that any remaining coefficient on reporting time must be attributable to the indirect effect. What we see is that, after controlling for the direct effect on motion disposition time, each additional month of reporting time reduces overall case duration by an average of 0.05 months. In other words, controlling for the direct effect on motion disposition time, cases that are most exposed to the six-month list actually last *longer* than cases that are least exposed. Column (3) shows that these indirect effects persist even after controlling for motion-level outcomes (i.e. whether the motion was granted, granted in part, etc., and whether an appeal was filed subsequent to motion disposition). Table 8 suggests that, although the six-month list is effective at expediting motion processing, the six-month list may also have the perverse effect of encouraging certain inefficient practices that tend to dampen the overall effect on case dispositions is somewhat. I interpret this as evidence that the six-month list may indeed cause judges to inefficiently "cut corners."

Taken together, evidence of any effects on the quality margin are decidedly mixed. Table 8 provides suggestive evidence that the six-month list leads to "corner-cutting" by judges, and this is consistent with our finding that, on appeal, district court judges are somewhat more likely to be

Table 8: **Effect of Motion Reporting Time on Months Until Case Disposition Controlling for Direct Effect on Motion Duration**

	(1)	(2)	(3)
Months until Report	0.072***	-0.050***	-0.042***
	(0.017)	(0.016)	(0.016)
Months until Motion Disposition		0.936***	0.903***
		(0.010)	(0.010)
granted			-2.789***
			(0.067)
grantedinpart			2.116***
			(0.100)
mooted			-2.239***
			(0.142)
Appeal Filed			1.867***
			(0.072)
Observations	249,546	249,546	249,546
Case & Motion Controls	Yes	Yes	Yes
Calendar Trends	Yes	Yes	Yes
District*Year FEs	Yes	Yes	Yes
Day-of-Month FEs	Yes	Yes	Yes
Mean of Dep. Var.	23.43	23.43	23.43
Mean of Indep. Var.	10	10	10

This table presents OLS estimates of the effect of additional motion reporting time on months until overall case disposition. Reporting time is measured in the number of months between the day on which a motion was filed and the earliest possible date on which it could appear on a CJRA 6-month report. All columns include basic case- and motion-level controls, including a dummy for the party (plaintiff or defendant) filing the motion and nature-of-suit, judge, district, and filing-year fixed effects. Robust standard errors are in parentheses.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

affirmed when they had more time to review a motion for summary judgment. Both results are consistent with the intuition that a judge will do more careful work when she is less subject to the time pressures of the six-month list. Still, I am unable to reliably identify an effect on summary judgment grant or denial rates. In future work I intend to investigate other proxies for judicial quality, including the frequency, content, and citation rates of written judicial opinions. I hope that these proxies will offer more insight into the how and why the six-month list affects adjudicatory quality.

C. Bunching estimates: A world without the six-month list

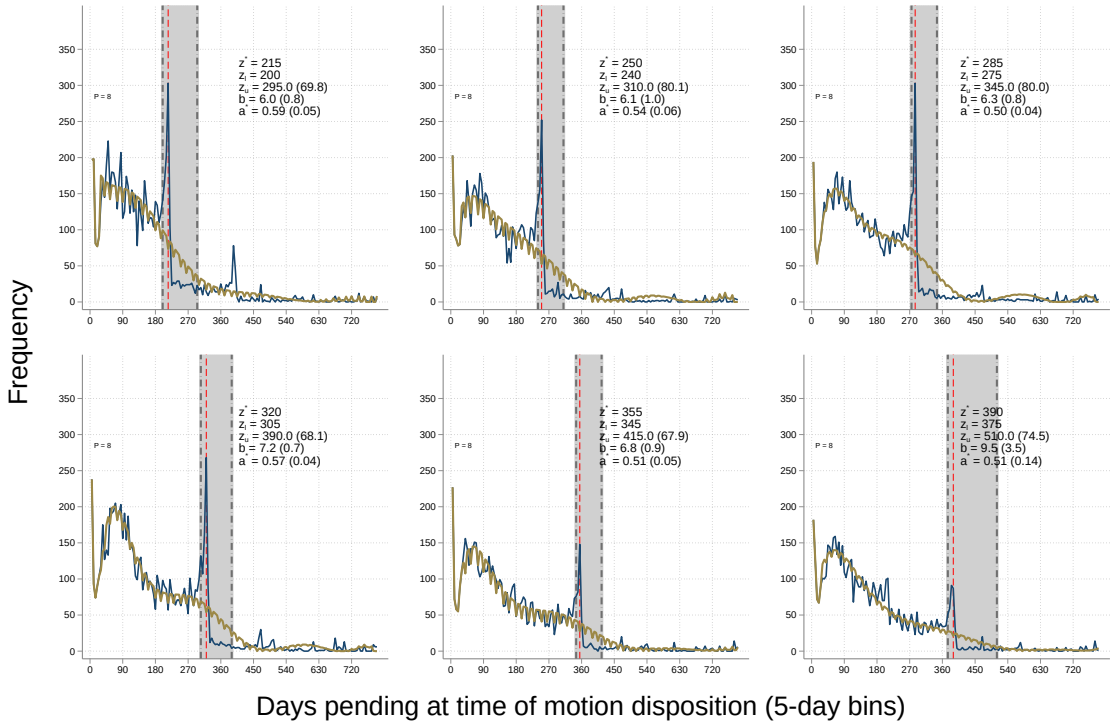
The explicit goal of the six-month list was to reduce delay in the civil litigation system,[114] and indeed, our results from Section V.A demonstrate that summary judgment motions tend to be adjudicated more quickly when they are more exposed to the six-month list. Thus far, however, we have not had a means of rigorously estimating the total amount of delay that is avoided by virtue of the six-month list. In this section I present bunching estimates of the counterfactual distribution of motion disposition times in a world without the six-month list. This will allow us to compare the current regime to a counterfactual regime without the six-month list, and it will allow us to estimate the total quantity of time-savings—for parties, attorneys, and the courts themselves—attributable to the six-month list.

As discussed above, our setting is complicated by the fact that motions are subject to a variety of different reporting times—more than 180 in total—depending upon the day of the year on which they were filed. Thus, we might hypothesize that the extent of bunching is likely to vary with the amount of reporting time. Figure 13 confirms our intuition by plotting the actual versus counterfactual density of motion disposition times for six separate reporting time amounts, ranging from the minimum (just over seven months, depicted in the northwest sector of the plot) to the maximum (just over thirteen months, depicted in the southeast sector of the plot). We can see that the bunching is prominent for all possible reporting times, but it is most prominent for motions with a relatively low amount of reporting time.

As discussed above, my goal is to estimate the ratio $T/\hat{T}$, where $T = \sum_{j \in J} \sum_{l \in L} c_j^l$ represents the total actual disposition time for all summary judgment motions in my sample, and $\hat{T} = \sum_{j \in J} \sum_{l \in L} \hat{c}_j^l \cdot d_j$ represents the estimated total counterfactual disposition time for the same sample of motions. Because the counterfactual distribution should be independent of the mo-

[114] *See supra* Section I.

Figure 13: **Estimated Bunching and Counterfactual Disposition Times for Six Reporting Time Levels**

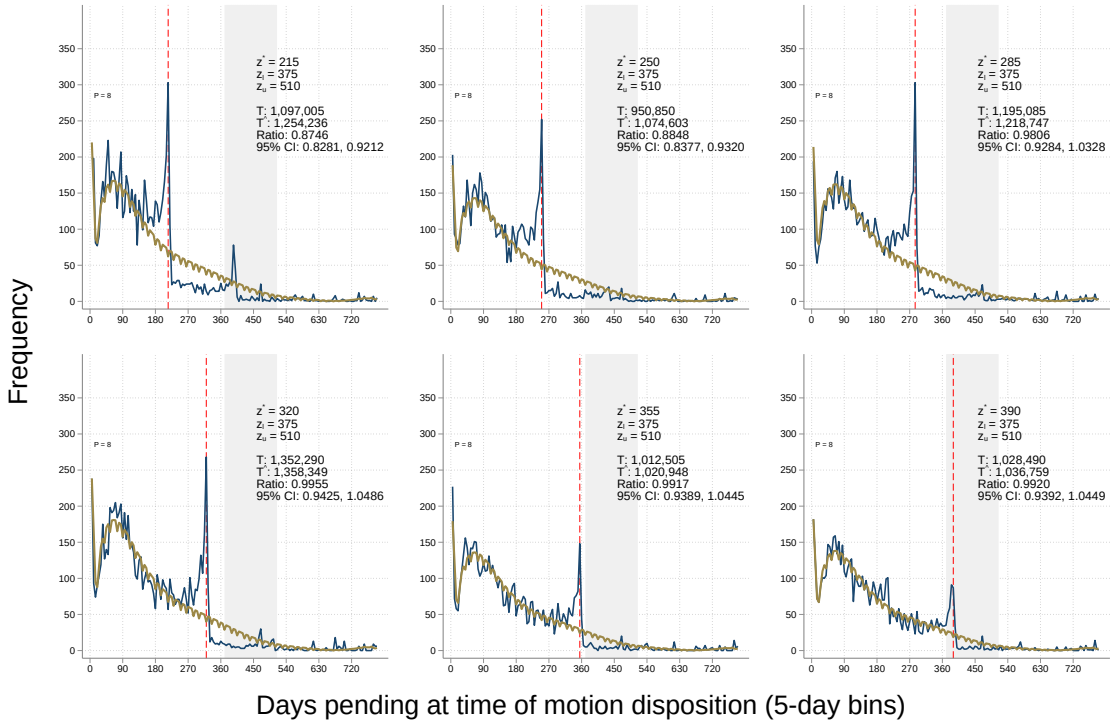


tion's reporting time l, it would make sense to impose the restriction that $\hat{c}_j^l = \hat{c}_j \forall l \in L$. In particular, I assume that the counterfactual for any given reporting time l is equal to the counterfactual estimated from maximum reporting time data ($l = 390$ days, or approximately 13 months) scaled by the number of filings with reporting time l, so that $\hat{c}_j^l = \hat{c}_j^3 90 * \frac{\sum_j c_j^l}{\sum_j c_j^3 90}$. I make this assumption for two reasons. First, because far-out deadlines are similar to *no* deadline, the maximum reporting time scenario provides us the closest thing to a no-deadline "control" group. Second, as discussed above in Section IV.C, the core bunching assumption (i.e., that the distribution of adjudications is unaffected by the six-month list outside of a local "exclusion window" around the deadline itself) is most likely to be satisfied in the maximum reporting time scenario, where the deadline is extremely distant.

Figure 14 plots the observed reporting time distribution for six separate reporting time bins. However, whereas Figure 13 plotted separate counter-

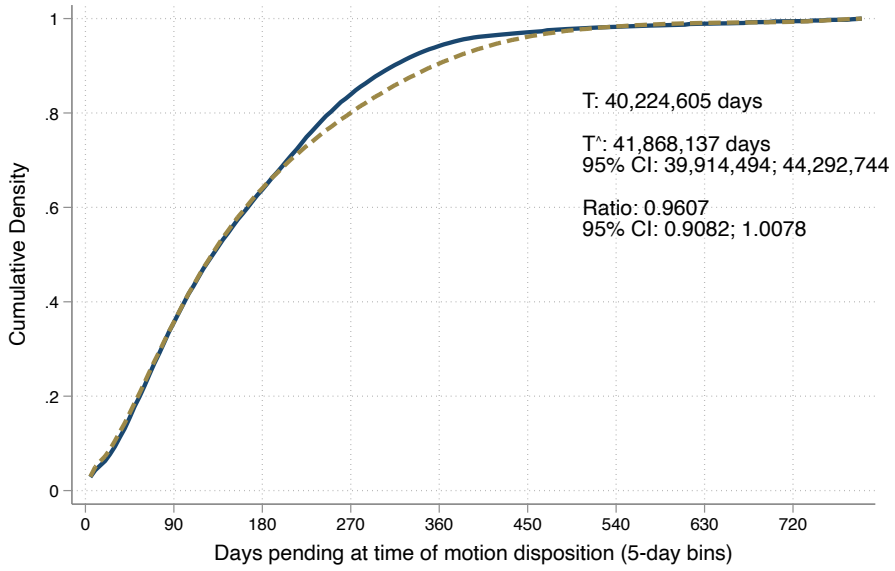
factual distributions for each amount of reporting time, Figure 14 adopts a single counterfactual distribution obtained from estimating equation (6) for the maximum reporting time of 390 days (approximately 13 months). For each reporting time bin l, I calculate the total actual disposition time T^l as well as the total counterfactual disposition time $\hat{T}^l$ for all motions filed with that amount of reporting time. As we scan Figure 14 from the upper-left to the lower-right, we can see that the ratio $T^l/\hat{T}^l$ tends to increase with the amount of reporting time. Whereas motions filed with 250 days or less of reporting are adjudicated approximately 12% faster than the no-list counterfactual, motions with 320 days or more of reporting time are adjudicated less than 1% faster (with 95% confidence intervals that include *no* time-savings). This suggest that, insofar as the six-month list saves total disposition time, the time-savings are almost entirely driven by the motions that are most exposed to the list, especially those with just 7–9 months of reporting time.

Figure 14: **Actual Disposition Times Plotted Against Maximum Reporting Time Counterfactual**



Finally, by aggregating the data—regardless of when a motion is filed—we can construct the observed and counterfactual cumulative distribution functions. Figure 15 plots the actual and counterfactual CDFs for the pooled data. Summing across all possible reporting time values l, I estimate an overall ratio $T/\hat{T}$ of approximately 0.96, with a 95% confidence interval of [0.908,1.008].[115] This suggests that the six-month list induces an overall reduction in total disposition time of approximately 4%, with the vast majority of time savings coming from motions with relatively low amounts of reporting time.

Figure 15: **CDFs of Actual vs. Counterfactual Disposition Times**



D. Do Judges Respond Heterogeneously?

Finally, I conclude this section by presenting evidence that judges exhibit substantial heterogeneity in their responsiveness to the six-month list. Table 9 presents results from OLS regressions that are similar to equation (2) except that they interact reporting time with selected judge traits, including whether the judge was under sixty years old at the time of the motion filing, whether the judge is a member of a racial minority, whether the judge

[115]Standard errors and confidence intervals are obtained with a Wild bootstrap procedure.

is a woman, whether the judge was serving as the Chief Judge of her district at the time of the motion filing, and whether the judge was appointed by a president of the same party as the current President at the time of the motion filing. Each regression also includes the uninteracted judge trait.

The results suggest that the effect of the six-month list varies considerable across different categories of judges. Female judges are also slightly more responsive, although the effect is only marginally significant. Magistrate judges are largely unresponsive relative to Article III judges.

I cautiously interpret these results as being broadly consistent with a model of career concerns, where judges are motivated to comply with the six-month list in order to enhance their opportunities for promotion. In fact, there are at least two explanations for why a career concerns-style model might lead to heterogeneity across dimensions including judges' age, race, and gender. The first story is slightly more uplifting, at least for those who care about diversity on the bench and equity in the workplace. Specifically, it could be that the observed heterogeneity is driven by recent efforts to diversify the federal bench. Although the federal judiciary remains far more white and male than the American public at large (men represent 73% of Article III judges, and more than 80% of Article III judges are white/non-Hispanic, compared to the approximately 61% of Americans who are white/non-Hispanic)[116], the judiciary has grown more diverse in recent years, especially under President Obama and now under President Biden. When the push to nominate a diverse pool of judges is combined with the current low baseline level of diversity in the judiciary, district court and magistrate judges who are members of underrepresented minorities (namely, women and people of color) may perceive enhanced prospects for promotion (i.e., elevation to a higher court). Similarly, it has always been the case that relatively young judges are more likely to be elevated than older judges, since Presidents and Senators tend to prefer confirming young judges who have the potential to sit on the bench for many years to come.[117] When prospects for promotion are more salient, judges have a stronger in-

[116]For data on changing judge demographics, *see Demography of Article III Judges, 1789-2020* , FED. JUD. CTR., https://www.fjc.gov/history/exhibits/graphs-and-maps/demography-article-iii-judges-1789-2017-introduction.

[117]The average age of Article III judges at the time of their initial appointment has fluctuated between a low of approximately 48 and a high of approximately 53 throughout the 2000s. *See Average Age at Initial Appointment of Article III Judges, 1789-2020*, FED. JUD. CTR., https://www.fjc.gov/history/exhibits/graphs-and-maps/age-and-experience-judges. Judicial nominees were especially young under President Trump. *See also* Micah Schwartzman & David Fontana, *Trump picked the youngest judges to sit on the federal bench. Your move,*

Table 9: **Effect of Reporting Time on Months Until Motion Disposition by Judge Characteristics**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Months until Report	0.122***	0.127***	0.130***	0.135***	0.130***	0.137***	0.133***	0.120***
	(0.007)	(0.006)	(0.006)	(0.005)	(0.005)	(0.007)	(0.007)	(0.009)
Reporting Time * Young	0.029***							0.022**
	(0.010)							(0.011)
Reporting Time * Non-White		0.045***						0.038**
		(0.015)						(0.015)
Reporting Time * Female			0.020*					0.012
			(0.012)					(0.012)
Reporting Time * Magistrate				-0.047***				-0.845**
				(0.016)				(0.350)
Reporting Time * Chief					0.002			-0.004
					(0.016)			(0.016)
Reporting Time * Same-party						-0.004		-0.007
						(0.010)		(0.011)
Reporting Time * Democrat							0.003	0.001
							(0.010)	(0.011)
Judge Under 60	0.165							0.152
	(0.103)							(0.108)
Non-White Judge		0.245*						0.200
		(0.147)						(0.150)
Female Judge			-0.117					-0.173
			(0.115)					(0.120)
Magistrate Judge				0.056				6.778**
				(0.161)				(3.061)
Chief Judge					0.207			0.191
					(0.159)			(0.160)
Same-party Judge						0.198**		0.190*
						(0.101)		(0.113)
Democrat Judge							0.072	0.015
							(0.102)	(0.114)
Observations	225,837	225,837	225,837	250,134	250,473	225,837	225,837	225,836
Case & Motion Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Calendar Trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District*Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Day-of-Month FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Dep. Var.	5.34	5.34	5.34	5.32	5.32	5.34	5.34	5.34
Mean of Indep. Var.	10	10	10	10	10	10	10	10

This table presents OLS estimates of the heterogeneous effects of additional reporting time on months until motion disposition for various judge characteristics, including whether the judge is under 60 years old, non-white, female, whether the judge is the Chief Judge of a district court, whether the judge is a magistrate judge versus a U.S. District Judge, and whether the judge was appointed by a President of the same party as the current President at the time of the motion filing. Reporting time is measured in the number of months between the day on which a motion was filed and the earliest possible date on which it could appear on a CJRA 6-month report. All columns include basic case- and motion-level controls, including a dummy for the party (plaintiff or defendant) filing the motion and nature-of-suit, judge, district, and filing-year fixed effects. Where the judge characteristic is time-varying (e.g. judge's age, or whether judge is of same party as the President), the un-interacted judge characteristic is also included. Robust standard errors are in parentheses.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

centive to burnish their reputations, and thus, they may be especially sensitive to the six-month list.[118]

However, a more pernicious story of workplace discrimination could also explain the pattern of observed heterogeneity. Specifically, it is possible that young, women, and racial/ethnic-minority judges must simply work harder and more carefully in order to receive the same level of recognition as their white or male peers.[119] If that is the case, then the returns to compliance with the six-month list are simply greater for judges who are members of an under-represented minority group.[120] This, too, would explain greater sensitivity to the six-month list among young, minority, and women judges.

In future work I intend to exploit additional variation in the likelihood of promotion—including variation in judicial vacancies on the Courts of Appeals—in order to further investigate how career concerns interact with individual traits including race, gender, and age. I also hope to further evaluate the competing explanations for heterogeneous career concerns. These explanations are not mutually exclusive, however, and it may be a combination of these two mechanisms—namely, the salience of promotions and the presence of workplace discrimination—that drives young and minority judges' differential responsiveness to the six-month list.

Biden, https://www.washingtonpost.com/outlook/2021/02/16/court-appointments-age-biden-trump-judges-age/.

[118]This hypothesis depends upon whether we view under-represented minority status and compliance with the six-month list as either substitutes or complements with respect to the likelihood of promotion. I speculate that they are much more likely to be complements. That is, the probability of promotion is increasing in both under-represented minority status *and* compliance with administrative deadlines, and the presence of one quality does not diminish the returns to the other.

[119]Such was the impression of retired Chief Justice Leah Ward Sears of the Supreme Court of Georgia, who commented to an interviewer that she "had to work harder, think faster, be more involved in bar issues, just to prove I belong on this court." *See* Nagueyalti Warren, *Leah J. Sears-Collins (1955–): Lawyer, judge, state supreme court justice*, *in* NOTABLE BLACK WOMEN, BOOK II 586, 588 (Jessie Carney Smith & Shirelle Phelps eds., 1992).

[120]*See, e.g.*, Rosemary Hunter, *More than Just a Different Face? Judicial Diversity and Decision-making*, 68 CURRENT LEGAL PROBS. 119, 127 (2015) ("A related point, and arguably another element of judicial ideology, is the invidiousness of difference—that is, the notion that exhibiting difference of any kind is inimical to the judicial role. In other words, women have been 'let in' to the judiciary on condition of conformity to the prevailing (masculine) ethos, and any hint of failure to conform would call into question their qualification to be a judge.")

VI. Discussion: Remaking the Six-Month List

The preceding empirical analysis reveals that the six-month list does indeed achieve its stated purpose of reducing civil litigation delay, at least in the context of motions for summary judgment. Evidence of quality effects was less conclusive, but as discussed in Section V.B *supra*, I do find some suggestive evidence of "corner-cutting" in response to the six-month list, and for cases that are ultimately appealed, I also find a modest effect on affirmance rates. Thus, my results suggest that the six-month list may influence not only *when* judges complete their assignments, but also *how* they complete them. In the following section I consider the normative dimensions of my empirical findings, and I consider how we might remake the six-month list in order to capitalize on its best features while minimizing the potential for unintended consequences.

Whatever its benefits, my analysis suggests that the six-month list suffers from two major deficiencies. Both deficiencies are inevitable consequences of the list's current design. First, the benefits of the six-month list are uneven. Minor and seemingly random differences in filing dates can substantially amplify or dampen the effect of the six-month list, and judges vary widely in their responsiveness to the list. Accordingly, the six-month list would benefit from reforms aimed at making its effects more uniform across motions, cases, and judges. Second, while the six-month list does promote speedier adjudications, its design also raises serious questions about the potential for unintended consequences. It is reasonable to ask whether judges focused on speed will tend to compromise on quality. Indeed, while my results are not conclusive on this point, they do provide some suggestive evidence of an effect on the quality margin, and even the appearance of distortion can be damaging to the courts'. Thus, an additional set of reforms should aim to reduce judges' incentives to cut corners.

A. Ensuring uniformity of judicial incentives

At present, motions vary enormously in their exposure to the six-month list. While judges have just seven months to review some motions before they appear on a six-month list, other motions enjoy nearly thirteen months of reporting time. While this variation is a boon to economists, who are always on the lookout for a good natural experiment, from the standpoint of judicial policy, this variation is sub-optimal. Variation in exposure to the

six-month list creates unpredictability, and for especially savvy judges and attorneys, it does create opportunities for strategic behavior.[121]

One solution to the problem of non-uniformity would be to use a continuously-updating six-month list. In other words, motions and certain cases pending for six-months or longer would be added to a publicly available website at the end of each business day. Under this system, all cases would benefit equally from delay-reducing effects of the list, and judges would also have less opportunity to prioritize some cases while neglecting others. One potential pitfall of the continuously-updating list, however, is that it may become less salient to judges and other court observers. The current CJRA reporting system has the benefit of focusing attention on the two semi-annual reports. Policymakers, members of Congress, and the especially-interested layperson knows to check the report on or after these dates, and judges know there is a high likelihood that the report will be read.[122] If, on the other hand, a new list is published each day, then the public may become inured, and judges may feel less social pressure as a result.

Another solution would be to maintain the current system of two reports per year, but to incorporate an element of randomness into the process. For example, if reports were published on 2-3 randomly selected dates per year, then judges might respond as if the reports are continuously updating. The "random" approach could even accommodate the attention-focusing effects of the current system's fixed publication dates. It could be announced in advance, for example, that six-month lists will continue to be published on March 31st and September 30th, but that judges overdue motions and cases will be assessed on the basis of an undisclosed date chosen at random from the previous three-month period. Interested parties will know that the first list of the year is scheduled for publication on March 31st, but judges will not know whether the list is to be based on overdue motions as of March 31st, January 1st, or any day in between. This would have the effect of encouraging judges to keep their dockets in a continual state of order, and

[121]This would, of course, violate my identifying assumption that litigants *do not* file strategically. While this assumption does appear to be met at present, as litigants and judges learn more about the six-month list, there is no guarantee that they would not learn to file or schedule motions strategically in the future.

[122]Inded, it is not unusual to see reporting based on the results of recent CJRA report. *See* Jonathan Ringel, *U.S. Judge in Atlanta Leads Nation in Motions Pending More Than Six Months*, LAW.COM, https://www.law.com/dailyreportonline/2019/11/21/us-judge-in-atlanta-leads-nation-in-motions-pending-more-than-six-months/?fbclid=IwAR1z2K2iVxDt7u3E1oQEkPpzPbqjol2Ei8NIvuuBQRFTJihL5U0hoA8KyeM&slreturn=2021042

it minimize the distortions that may occur in the days or weeks leading up to a publication date.

It is likely that an element of "noise" would also tend to have a leveling effect across judges. Recall from Section V.D that judges vary considerably in their sensitivity to the six-month list, including along dimensions like age, race, and gender. But by introducing a degree of randomness into the six-month list, we would dampen slightly the reputational signal of any one report. Judges would still have an incentive to keep their dockets under control, but the occasional bad report can be explained away as an outlier. In order to learn about a judge's overall tendencies, court observers would have to look at the judge's overall track record. This would at least partially mitigate unfair pressures on minority judges and it would also make litigants less subject to the idiosyncrasies of an individual judge.

Finally, my preferred solution to the non-uniformity problem would be to incorporate *aggregate* statistics into the current six-month lists. That is, in addition to (or even instead of) reporting *currently* overdue motions and cases, Congress[123] should consider calling on the Administrative Office to also report semiannual judge-specific aggregate statistics, like how many motions were pending for six-months or longer at any point in the prior six months, average time-until-disposition for different types of motions, etc. Whereas the current CJRA reports reflect a mere snapshot in time—that is, only overdue cases or motions that are still pending *as of the report's publication date*—a report involving aggregate statistics would offer valuable window into a judge's average performance. In that sense, my proposal is somewhat similar in spirit to the concept of "income averaging," which has gained favor among some tax scholars in recent years[124] This proposal has the advantage of not only reducing variation in exposure to the six-month list, but it also avoids penalizing judges who take on unusually complex cases. Specifically, even if a judge is slow to dispose of one or two particu-

[123]From a practical point of view, whether a particular amendment to the reporting requirements necessitates Congressional action is likely to depend upon whether judges view the amendment as bolstering or eroding their judicial independence."[I]n a system where key participants have incentives to resist . . . reform, change is much more likely to occur through the force of law than through the nonbinding, hortatory proposals [of] the Judicial Conference." (**?**).

[124]*See, e.g.*, Lily L. Batchelder, *Taxing the Poor: Income Averaging Reconsidered*, 40 HARV. J. LEGIS. 395 (2003) (arguing that federal income taxes assessed on the basis of single-year income tend to penalize the poor, who are especially likely to experience large and frequent income fluctuations, and proposing that certain aspects of the income tax code be based on multi-year income averages).

larly complex cases, her peers can nonetheless discern from her aggregate statistics that the slowness is not part of an overall tendency for slowness.

B. Removing incentives to compromise on quality

My analysis reveals mixed evidence on the question of whether judges are sacrificing quality for speed in response to the six-month list. Nonetheless, one could imagine another set of reforms aimed at further preventing this possibility.

First, it is worth noting one feature of the six-month list that may already be mitigating some quality effects. Recall that, in addition to reporting motions that have been pending for six months or longer, the Administrative Office is also directed to publish reports on *cases* that have been pending for three years or longer.[125] Also recall, from my discussion regarding Table 8, that judges appear to be inefficiently deferring work until after the summary judgment phase of a given case. This is what I referred to as "cutting corners." Insofar as the three-year list focuses attention on overall case duration, the three year list may mitigate the incentives to inefficiently postpone work until a later phase of the case. In other words, the three-year list may have the effect of reducing judicial myopia. More research should be done on the effects of the three-year list, but it may offer a road map for future improvements to the six-month list. Insofar as the three-year list is effective at reducing myopia, it may be beneficial to reduce its horizon, perhaps even reporting on cases that have been pending two years or longer. Of course, since the three-year list may have its own unintended consequences, broad policy recommendations are inadvisable until further research has been conducted.

The CJRA might also benefit from a reporting scheme that takes into account a broader set of metrics, including metrics unrelated to speed. According to the multitask model previewed in Section II (and further specified in Appendix Section A), the tendency to compromise on quality stems from disparities between competing goals (e.g. speed, fairness, and accuracy) with respect to both monitoring costs and the power of incentives. In other words, since speed is more easily monitored than quality, *and* since the six-month list rewards speed but not quality, judges may compromise quality. While quality is inherently hard to monitor, recent scholarship has sought to measure it. For example, recent articles by Senior Judge William Young of the U.S. District Court for the District of Massachusetts and Pro-

[125] 28 U.S.C. §476(a)(3); *see supra* Section I.

fessor Jordan Singer propose an alternative metric for judicial productivity, which they call "bench presence."[126] Bench presence measures the time that a district judge spends on the bench, actively presiding over cases. By incorporating more holistic measures of adjudicative quality into the CJRA's judicial reporting scheme, we may eliminate some of the incentive to sacrifice quality for the sake of speed.

Of course, the inherent danger of including additional metrics in the six-month list is that those metrics will simply create new biases in judicial behavior. Moreover, at least as a matter of public perception, monitoring judges on *how* they decide matters before them—and not merely on *when*—may be interpreted by some as an unacceptable intrusion into judicial independence. One possibility, which requires more research, is to include ostensibly "neutral" metrics. These metrics would be intended not to convey some notion of "quality," but rather to simply indicate that something may be amiss. In other words, these metrics would serve as the "canary in the coal mine." For example, we may not have a strong prior for whether judges should be qualifying more or fewer expert witnesses, but if we observe that a particular judge is a major outlier, that may be an indication that the judge is compromising on some aspect of adjudicative quality. Additional research would be necessary in order to identify which metrics, if any, are ideal for reporting. Still, this too could raise concerns, not least of which is the erosion of judicial independence.

In future drafts I intend to explore further solutions to the potential for adverse effects on judicial quality. I also intend to explore how to address the observed heterogeneity across judges (including along dimensions of age, race, and gender), and I intend to consider much broader reforms outside of the narrow confines of the six-month list.

CONCLUSION

This paper presents one of the first empirical analyses of the causal effects of the six-month list on the speed and quality of civil adjudication. Aided by an original large-N motion-level dataset and a novel identification strat-

[126]Hon. William G. Young & Jordan M. Singer, *Bench Presence: Toward a More Complete Model of Federal District Court Productivity*, 118 PENN ST. L. REV. 55 (2013); Jordan M. Singer & Hon. William G. Young, *Measuring Bench Presence: Federal District Judges in the Courtroom, 2008–2018*, 118 PENN. ST. L. REV. 243 (2013); *see also* Jordan M. Singer & Hon. William G. Young,*Bench Presence 2014: An Updated Look at Federal District Court Productivity*, 48 NEW ENG. L. REV. 565 (2014).

egy based on quasi-random variation in exposure to the six-month list, I uncover two important findings. First, "shaming" works. That is, the six-month list has effectively accomplished its ostensible goal of promoting speedy adjudications. Motions that are most exposed to the six-month list are adjudicated almost 15% faster than those that are least exposed, and overall cases are adjudicated almost 2% faster as a consequence. Similar results from a bunching analysis suggest that the six-month list reduces total motion disposition times by approximately 4% relative to a counterfactual regime with no six-month list. Second, improved speed does not appear to have been achieved at a significant cost with respect to the *quality* of civil adjudications. While district court judges are slightly less likely to grant summary judgment when the motion is more exposed to the six-month list, the effect is small, marginally significant, and not robust to all specifications. Effects on appellate outcomes are similarly small and statistically insignificant. On the other hand, after controlling for the direct effect on motion processing time, it does appear that greater exposure to the six-month list actually *prolongs* overall case duration, suggesting that the six-month list may be causing judges to inefficiently "cut corners." I interpret the above results as broadly consistent with models of judicial behavior that emphasize career concerns, procrastination, and judicial multitasking. In the previous section, I discussed the normative implications of my findings. In particular, I suggest reforms aimed both at making the effects of the six-month list more uniform across motions and cases and at mitigating the six-month list's potential for adverse effects on adjudicative quality.

In addition to the main results, I find evidence of considerable heterogeneity across judges in their responsiveness to the six-month list. In particular, I find that young judges, minority judges, and women judges are among the most sensitive to the six-month list. These findings, while preliminary, call attention to the ways in which non-traditional workplace incentives—here, the use of social sanctions—interact with worker characteristics like race, age, and gender.

APPENDIX

A. JUDICIAL MULTITASK MODEL

Suppose that the judge chooses between two actions, a_1 and a_2, where the first action tends to expedite the case, and the second action tends to enhance procedural fairness. For example, a_1 might correspond to a pre-trial conference, and a_2 may correspond to granting additional time for discovery. Both actions are personally costly to the busy federal judge. The judge's cost function is

$$c(a_1, a_2) \tag{7}$$

where $\frac{\partial c}{\partial a_1} > 0$, $\frac{\partial^2 c}{\partial a_1^2} > 0$, and $\frac{\partial^2 c}{\partial a_2^2} > 0$. That is, the judge's private cost is increasing and convex in both actions.

These actions generate judicial output according to

$$x_1 = a_1 + \varepsilon_1 \tag{8}$$
$$x_2 = a_2 + \varepsilon_2, \tag{9}$$

where x_1 is inversely related to the judge's average motion processing time, and x_2 represents the substantive and the overall procedural fairness of her decisions. The individual judge's contribution to social welfare W is a function of both types of judicial output:

$$W = \phi_1 x_1 + \phi_2 x_2 \tag{10}$$

Among the most important features of the model is that, while x_1 is perfectly observable, x_2 is unobserved. That is, while the Congress and the Federal Judiciary can easily monitor a judge's average time-to-disposition as well as her disposition time on individual cases and motions, it is difficult to monitor her substantive or procedural fairness. The latter generally requires appellate review, which is both costly and subject to error in its own right.

Seeking to incentivize that which can be observed, judges are promoted with probability $p = \bar{p} + \beta x_1 + \nu$. That is, the probability of promotion increases linearly with the inverse of the judge's average motion processing

time, and β represents the strength of the judge's incentives. For example, the introduction of the 6-month list, which tends to incentivize speed, would represent an increase the value of β.

The federal district judge chooses her actions a_1 and a_2 in order to maximize her private utility from promotion net of her private costs:

$$\max_{a_1,a_2} U(a_1,a_2) = u\left(p(a_1,a_2)\right) - c(a_1,a_2), \tag{11}$$

which yields the first order conditions:

$$[a_1] : \beta = \frac{\partial c(a_1,a_2)}{\partial a_1}$$
$$[a_2] : \frac{\partial c(a_1,a_2)}{\partial a_2} * a_2 = 0$$

If the cost of a_2 is always positive–that is, if $\frac{\partial c}{\partial a_2} > 0$–then the model yields a corner solution where the judge never expends any effort at procedural fairness. Instead, suppose that $\frac{\partial c(a_1,a_2=0)}{\partial a_2} \leq 0$, yielding an interior solution. That is, as long as efforts at fairness are costless at certain minimal levels, then the judge will expend some effort in that direction. Further suppose that actions a_1 and a_2 are substitutes, so that $\frac{\partial c^2(a_1,a_2)}{\partial a_1 \partial a_2}$. This seems like a reasonable assumption, given that actions tending to enhance procedural fairness will often tend to slow down an action and make speedy disposition more costly.

The key question is how the judge's behavior (namely, her choice of actions a_1 and a_2) responds to the strength of her incentives β. Differentiating her first order conditions with respect to β yields:

$$\frac{\partial a_1^*}{\partial \beta} > 0$$
$$\frac{\partial a_2^*}{\partial \beta} < 0$$

In other words, when x_1 is observable, x_2 is unobservable, and actions a_1 and a_2 are substitutes, high-powered incentives like the 6-month list will tend to increase investment in speed and decrease investment in procedural fairness.

1. Incorporating Judge Procrastination

The goal of this model is to evaluate how a present-biased responds to incentives similar to those generated by the six-month list. The model bor-

rows much of its architecture from other models used to study the effects of final[127] or interim deadlines[128] on the behavior of present-biased agents. The six-month list, however, imposes a somewhat unique choice structure with similarities to both final and interim deadlines. The six-month list is similar to an interim deadline in the sense that it is non-binding—much like a student subject to an interim deadline for submitting a rough draft of a writing assignment, the judge is free to allocate her effort across the deadline, even if it triggers an appearance on the six-month list. However, if she chooses to discontinue her work in order to avoid an appearance on the six-month list, then her work becomes final, and it is too late to invest effort in order to improve it.

I will start by introducing a basic model of a judge subject to present-bias (i.e. procrastination). After establishing the framework, I will consider the likely effects of implementing a six-month list-style regime. Suppose a judge a required to enter an order disposing of a single motion. She has two periods $t \in \{1,2\}$ during which to work on the order. At the end of period 1, she may choose to either continue working on the order during period 2, or she may discontinue her work and enter the order immediately. For each period that she works on the order, she chooses an effort level $e_t \geq 0$ for which she incurs a cost of $c(e_t)$ where $c'(\cdot) > 0$ and $c''(\cdot) > 0$. The judge is rewarded for her efforts in period 3, where her probability of promotion $p\left(\sum_{t=1}^{2} e_t + \varepsilon\right)$ is strictly increasing and in her total effort invested in the order ($p'(\cdot) > 0$; $p''(\cdot) < 0$). The noise term ε reflects the inherently imperfect observability of a judge's effort on any single motion. The judge's intertemporal preferences are given by a standard hyperbolic discounting utility function:

$$U_t(u_t, u_{t+1}, \ldots, u_T) = u_t + \beta \sum_{\tau=t+1}^{T} \delta^{\tau-t} u_\tau,$$

where u_t represents the judge's instantaneous utility in period t, $\delta \in [0,1]$ represents a time-consistent (i.e. exponential) discount factor, and $\beta \in [0,1]$ denotes the degree of the judge's time-inconsistent present bias. For conve-

[127] *See, e.g.*, Ted O'Donoghue & Matthew Rabin, *Incentives for Procrastinators*, 114 Q. J. ECON. 769 (1999).

[128] *See, e.g.*, Fabian Herweg & Daniel Muller, *Performance of Procrastinators: on the Value of Deadlines*, 70 THEORY & DECISION 329 (2011); Ted O'Donoghue & Matthew Rabin, *Incentives and Self-Control* (2005) (unpublished working paper).

nience, we will assume that the judge's has a time-consistent discount factor of $\delta = 1$.

First we consider a regime without the six-month list. In the first period the judge chooses an actual first-period effort level e_1, decides whether to continue working in period 2, and conditional on choosing to continue, chooses a planned second-period effort level e_2. The judge's first-period intertemporal utility function is given by

$$U_1 = \max\{-c(e_1) + \beta p(e_1), -c(e_1) - \beta c(e_2) + \beta p(e_1 + e_2)\}. \tag{12}$$

The judge's second-period intertemporal utility function, which depends upon whether she chooses to continue working in period 2, is given by

$$U_2 = \begin{cases} \beta p(e_1) \text{ if judge discontinues work} \\ -c(e_2) + \beta p(e_1 + e_2) \text{ if judge continues work} \end{cases} \tag{13}$$

Time-Consistent Judge First we consider a time-consistent judge. For a time-consistent agent, $\beta = 1$, which reflects an absence of present-bias. Since a time-consistent judge's preferences do not change over time, she is able to commit to whichever future course of action maximizes U_1. She continues working in the second period if $-c(e_1^*) - c(e_2^*) + \beta p(e_1^* + e_2^*) > -c(\tilde{e_1}) + p(\tilde{e_1})$, where $\{e_1^*, e_2^*\} = \arg\max_{e_1,e_2} -c(e_1) + p(e_1), -c(e_1) - c(e_2) + p(e_1 + e_2)$ and $\{\tilde{e_1}\} = \arg\max_{e_1} -c(e_1) + \beta p(e_1)$. Assuming that she continues working into the second period, the judge's optimal sequence of effort is characterized by the first-order conditions

$$c'(e_1) = c'(e_2) = p(e_1 + e_2). \tag{14}$$

That is, the judge invests the same in both periods. Moreover, due to the convexity of the cost curve, it can be shown that the judge will always prefer to continue working after the first period so that she may smooth her effort across two periods.

2. *Present-Biased Judge*

Next we consider a present-biased judge. We will assume for sake of simplicity that the judge is naive to her time-inconsistent preferences; the main results extend to the case of a sophisticated judge. The severity of the judge's present-bias is reflected by $\beta \in (0, 1]$.

In the first period, the naive agent chooses her actual first-period effort e_1^* and her planned second-period effort $\widehat{e_2^*}$ in order to maximize U_1. She continues working after the first period if $-c(e_1^*) - \beta c(\widehat{e_2^*}) + \beta p(e_1^* + \widehat{e_2^*}) >$

$-c(\tilde{e_1}) + p(\tilde{e_1})$. The naive judge will always choose to continue working in the second period due to both the convexity of the cost function and the perceived lower cost of effort in the second period. Actual first-period effort e_1^* and planned second-period effort $\widehat{e_2^*}$ are characterized by the first order conditions

$$\begin{aligned} c'(e_1^*) &= \beta g'\left(e_1^* + \widehat{e_2^*}\right) \\ c'(\widehat{e_2^*}) &= p'\left(e_1^* + \widehat{e_2^*}\right). \end{aligned} \tag{15}$$

In the second period the judge is surprised to learn that her current effort is no less costly than it was in the previous period. The judge therefore re-optimizes in the second period, with her actual second-period effort e_2^* being characterized by

$$c'(e_2^*) = \beta p'(e_1^* + e_2^*). \tag{16}$$

3. *Implementing the Six-Month List*

Next I will modify my model to incorporate a policy like the six-month list. Before the imposition of the six-month list, a judge's probability of promotion depended only upon the effort she exerted plus a random noise term.

$$p(e_1, e_2) = \begin{cases} g(e_1 + \varepsilon) \\ g(e_1 + e_2 + \varepsilon) - B, \end{cases} \tag{17}$$

where $g(\cdot)$ is strictly increasing and concave in effort e and the constant B reflects a punishment for judges whose motions appear on the six-month list. In other words, a judge is free to continue working in the second period if she chooses, but the cost of doing so is a predictably lower probability of future promotion.

Proposition: For a naive or sophisticated present-biased judge, $\exists$ incentive B such that a non-complying judge (who continues working in the second period) becomes a complying judge (who concludes work in period one).

Proposition: For a naive or sophisticated present-biased judge, total effort is weakly decreasing with compliance.

Proposition: For a naive or sophisticated present-biased judge, for a given incentive B, compliance with the six-month list is increasing in the variance of *epsilon*.

B. ADDITIONAL TABLES & FIGURES

Figure 16: **Excerpt from the CJRA six-month report for the period ending September 30, 2016**

CJRA Table 8—Report Of Motions Pending Over Six Months
For Period Ending September 30, 2016

DC Circuit

District Judge BATES, JOHN D.

Office	Docket Number	NOS Code	Case Title	Motion Text	CJRA Deadline	Status	Status Description
1	15-cv-01945	360	OWENS et al v. BNP PARIBAS S.A. et al	MOTION to Dismiss	08/30/2016	B	Opinion/Decision in Draft
						Q	Complexity of Case
				MOTION for Summary Judgment	09/03/2016	B	Opinion/Decision in Draft
						Q	Complexity of Case

Table 10: **Comparison of Means: Known vs. Unknown Dispositions Summary Judgment Motions, All Civil Cases (2005-2014)**

	(1) Unknown Disposition	(2) Known Disposition	(3) Difference in Means
Reporting Time (months)	10.03	10.00	-0.03
	(1.74)	(1.75)	[0.02]
% Filed by Pltf.	0.28	0.30	0.01
	(0.45)	(0.46)	[0.02]
% Filed by Deft.	0.61	0.63	0.02
	(0.49)	(0.48)	[0.02]
% Pro Se	0.17	0.18	0.02
	(0.37)	(0.39)	[0.01]
% I.F.P.	0.14	0.17	0.03
	(0.35)	(0.38)	[0.01]**
% Prisoner Rights	0.10	0.11	0.01
	(0.30)	(0.31)	[0.01]
% Employment Discrim.	0.09	0.12	0.03
	(0.28)	(0.32)	[0.01]***
% Personal Injury	0.18	0.09	-0.09
	(0.38)	(0.28)	[0.06]
% Soc. Sec.	0.08	0.12	0.04
	(0.28)	(0.33)	[0.01]***
N	225,276	250,564	475,840

This table presents a comparison of means between summary judgment motions with known and unknown dispositions. Columns (1) and (2) show sample means with standard deviations in parentheses, and column (3) shows differences in means with standard errors in brackets.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 11: **Effect of Reporting Time on Months Until Motion Disposition Individual Reporting Month Dummies**

	(1)	(2)	(3)	(4)
8-9 Months Reporting Time	0.215***	0.189***	0.204***	0.255***
	(0.027)	(0.033)	(0.033)	(0.036)
9-10 Months Reporting Time	0.364***	0.394***	0.398***	0.362***
	(0.026)	(0.033)	(0.033)	(0.035)
10-11 Months Reporting Time	0.508***	0.515***	0.523***	0.526***
	(0.027)	(0.029)	(0.029)	(0.029)
11-12 Months Reporting Time	0.637***	0.618***	0.632***	0.674***
	(0.027)	(0.035)	(0.035)	(0.037)
12-13 Months Reporting Time	0.628***	0.655***	0.644***	0.611***
	(0.027)	(0.033)	(0.032)	(0.034)
Observations	250,063	250,063	250,057	250,057
Case & Motion Controls	Yes	Yes	Yes	Yes
Calendar Trends		Yes	Yes	Yes
District*Year FEs			Yes	Yes
Day-of-Month FEs				Yes
Mean of Dep. Var.	5.32	5.32	5.32	5.32
Mean of Indep. Var.	10.0	10.0	10.0	10.0

This table presents OLS estimates of the effect of additional reporting time on months until motion disposition. Reporting time is measured in the number of months between the day on which a motion was filed and the earliest possible date on which it could appear on a CJRA 6-month report. All columns include basic case- and motion-level controls, including a dummy for the party (plaintiff or defendant) filing the motion and nature-of-suit, judge, district, and filing-year fixed effects. Robust standard errors are in parentheses.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

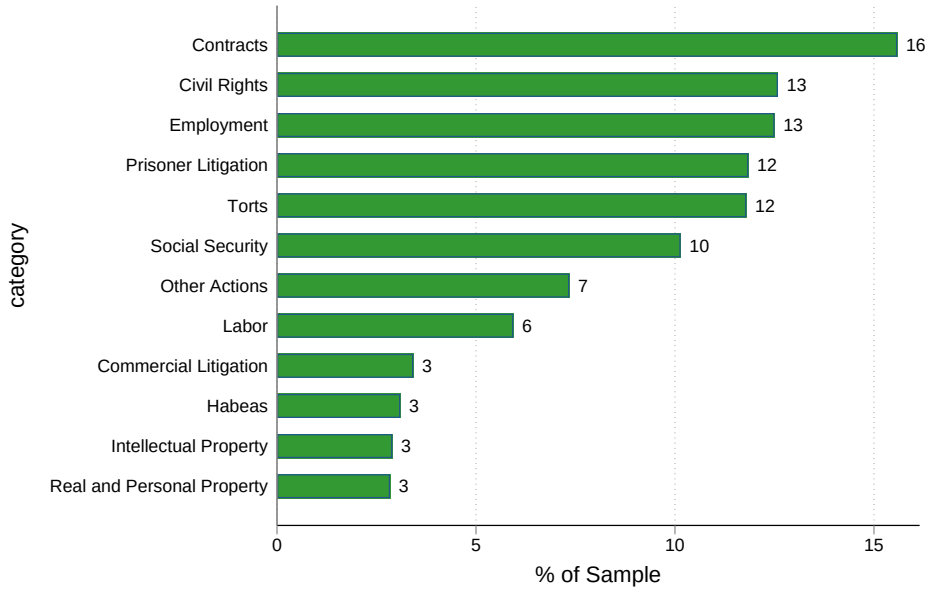
Table 12: **Effect of Reporting Time on Months Until Case Disposition Individual Reporting Month Dummies**

	(1)	(2)	(3)	(4)
8-9 Months Reporting Time	0.050	-0.128	-0.115	0.061
	(0.109)	(0.146)	(0.145)	(0.170)
9-10 Months Reporting Time	0.027	0.372**	0.416***	0.244
	(0.107)	(0.149)	(0.148)	(0.167)
10-11 Months Reporting Time	0.116	0.289**	0.312***	0.301***
	(0.109)	(0.117)	(0.116)	(0.116)
11-12 Months Reporting Time	0.389***	0.367**	0.367**	0.522***
	(0.108)	(0.154)	(0.153)	(0.175)
12-13 Months Reporting Time	0.210**	0.407***	0.457***	0.280*
	(0.107)	(0.146)	(0.145)	(0.167)
Observations	183923	183923	183887	183887
Case & Motion Controls	Yes	Yes	Yes	Yes
Calendar Trends		Yes	Yes	Yes
District*Year FEs			Yes	Yes
Day-of-Month FEs				Yes
Mean of Dep. Var.	23.38	23.38	23.37	23.37
Mean of Indep. Var.	10.04	10.04	10.04	10.04

This table presents OLS estimates of the effect of additional motion reporting time on months until overall case disposition. Reporting time is measured in the number of months between the day on which a motion was filed and the earliest possible date on which it could appear on a CJRA 6-month report. All columns include basic case- and motion-level controls, including a dummy for the party (plaintiff or defendant) filing the motion and nature-of-suit, judge, district, and filing-year fixed effects. Robust standard errors are in parentheses.

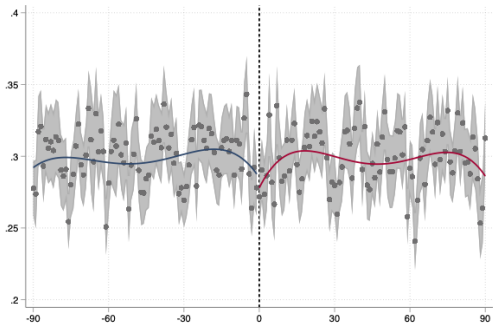
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure 17: **Distribution of Case Types**

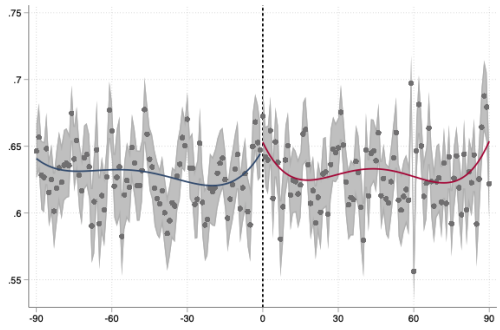


Note: Category "Other" includes miscellaneous statutory claims, tax-related claims, certain employment rights claims, as well as a wide variety of other case types.

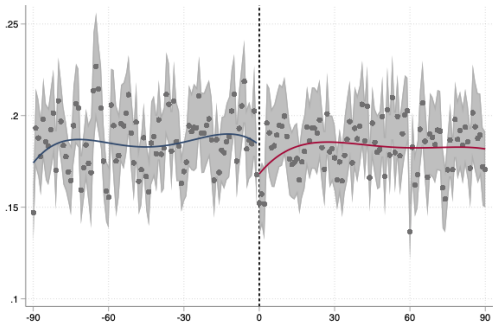
Figure 18: **Distribution of Covariates Across Filing Date Cutoffs**



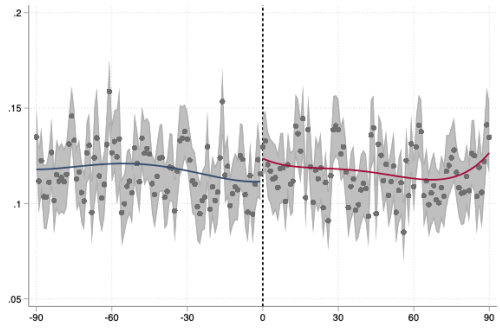
(a) % Motions filed by Plaintiff



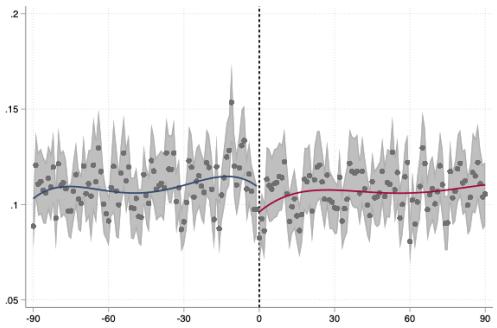
(b) % Motions filed by Defendant



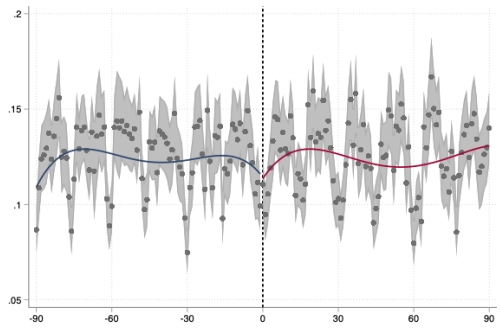
(c) % Filed Pro Se



(d) % Employment Discrimination Cases

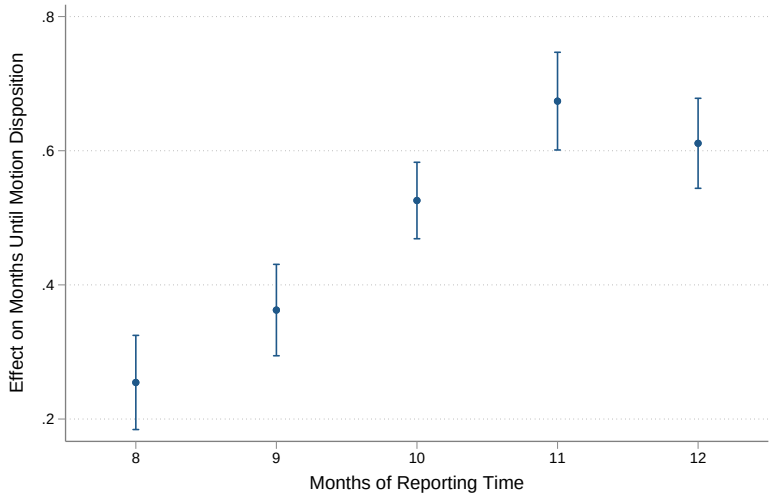


(e) % Prisoner Rights Cases

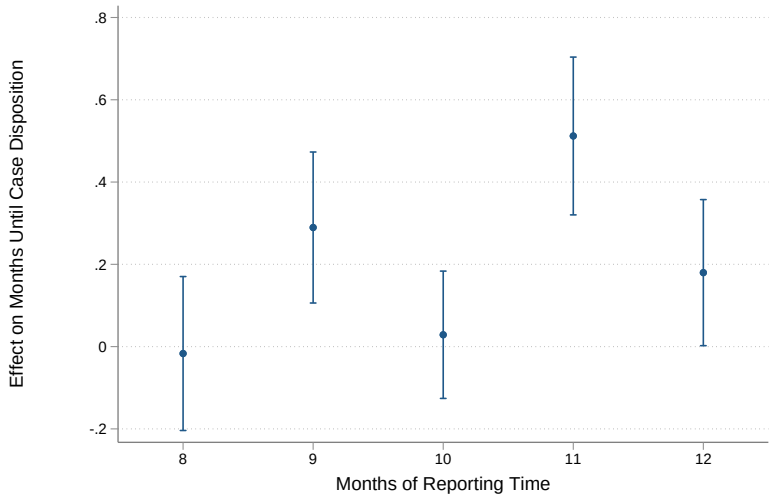


(f) % Social Security Cases

Figure 19: **Effect of Reporting Time on Months Until Disposition**

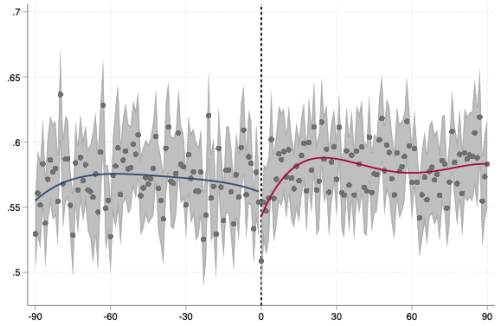


(a) Motion Disposition

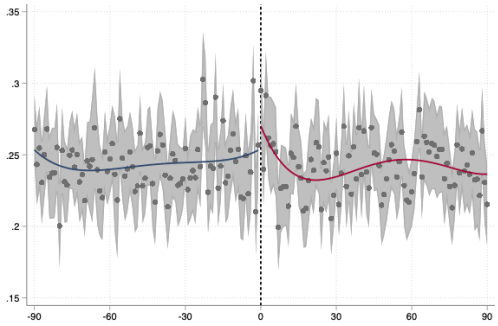


(b) Overall Case Disposition

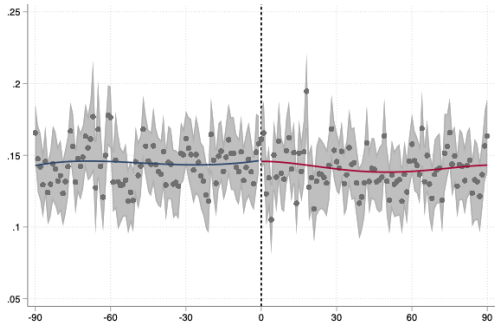
Figure 20: **Regression Discontinuity Plots of Motion and Appellate Outcomes**



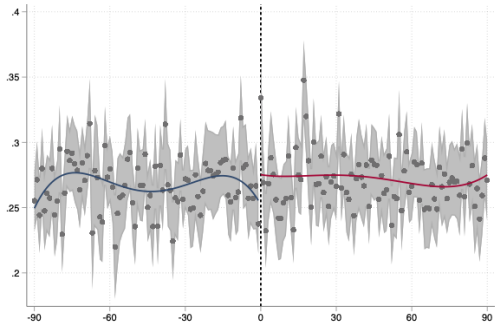
(a) % Granted



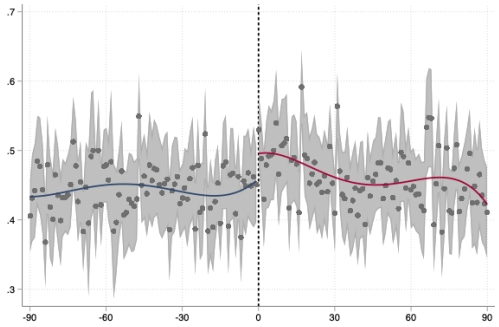
(b) % Denied



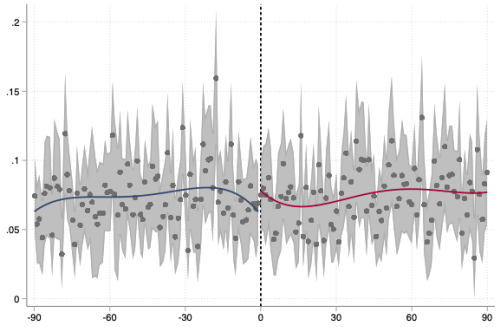
(c) % Granted in Part



(d) % Appealed



(e) % Affirmed



(f) % Reversed

Table 13: **Regression Discontinuity Estimates of Effect of Reporting Time on Motion-Level Outcomes**

Sample: Motions filed by Defendants Only					
	Parametric			Local Linear	
	(1) Linear	(2) Quadratic	(3) Cubic	(4) MSE	(5) CER
			Motion Granted		
Filed After Cutoff	0.007	0.006	-0.010	-0.031***	-0.029**
	[0.005]	[0.007]	[0.010]	[0.011]	[0.014]
Mean of Dep. Var.	.57	.57	.57	.57	.57
Observations	156,230	156,230	156,230	156,230	156,230
			Motion Denied		
Filed After Cutoff	-0.006	-0.007	0.008	0.032***	0.021
	[0.004]	[0.006]	[0.009]	[0.011]	[0.015]
Mean of Dep. Var.	.24	.24	.24	.24	.24
Observations	156,230	156,230	156,230	156,230	156,230
			Motion Granted in Part		
Filed After Cutoff	-0.000	0.003	0.001	-0.005	-0.001
	[0.004]	[0.005]	[0.007]	[0.007]	[0.009]
Mean of Dep. Var.	.14	.14	.14	.14	.14
Observations	156,230	156,230	156,230	156,230	156,230

This table presents regression discontinuity (RD) estimates of the effect of additional reporting time on motion-level outcomes, including whether the motion was granted, denied, or granted in part. All samples are restricted to motions filed by defendants. The running variable represents the motion filing date relative to the six-month list eligibility cutoff. Motions filed just before the cutoff are eligible for the current six month list, whereas motions filed just after the cutoff have an additional six months before they might appear on a list. Columns (1)-(3) are estimated parimetrically with linear, quadratic, and cubic polynomials, respectives. Columns (4)-(5) are estimated nonparametrically with local linear regressions, using mean-squared error (MSE) and coverage error rate (CER) optimal methods of optimal bandwidth selection, respectively. All columns include basic case- and motion-level controls, including nature-of-suit, judge, district, and filing-year fixed effects.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 14: **Regression Discontinuity Estimates of Effect of Reporting Time on Appellate Outcomes**

Sample: Motions filed by Defendants Only					
	Parametric			Local Linear	
	(1) Linear	(2) Quadratic	(3) Cubic	(4) MSE	(5) CER
	Appeal Filed				
Filed After Cutoff	0.012***	0.012*	0.014	0.056***	0.062***
	[0.005]	[0.007]	[0.009]	[0.011]	[0.015]
Mean of Dep. Var.	.27	.27	.27	.27	.27
Observations	156,230	156,230	156,230	156,230	156,230
	Affirmed on Appeal				
Filed After Cutoff	0.049***	0.063***	0.075***	0.074***	0.064***
	[0.010]	[0.014]	[0.019]	[0.019]	[0.024]
Mean of Dep. Variable	.45	.45	.45	.45	.45
Observations	42,173	42,173	42,173	42,173	42,173
	Reversed on Appeal				
Filed After Cutoff	-0.012**	-0.005	-0.001	0.006	0.003
	[0.005]	[0.007]	[0.010]	[0.010]	[0.013]
Mean of Dep. Variable	.07	.07	.07	.07	.07
Observations	42,173	42,173	42,173	42,173	42,173

This table presents regression discontinuity (RD) estimates of the effect of additional reporting time on various appellate outcomes, including whether an appeal was filed subsequent to an order on the motion, whether the lower-court judgment was affirmed on appeal, and whether the lower-court judgment was reversed. All samples are restricted to motions filed by defendants. The running variable represents the motion filing date relative to the six-month list eligibility cutoff. Motions filed just before the cutoff are eligible for the current six month list, whereas motions filed just after the cutoff have an additional six months before they might appear on a list. Columns (1)-(3) are estimated parimetrically with linear, quadratic, and cubic polynomials, respectives. Columns (4)-(5) are estimated nonparametrically with local linear regressions, using mean-squared error (MSE) and coverage error rate (CER) optimal methods of optimal bandwidth selection, respectively. All columns include basic case- and motion-level controls, including nature-of-suit, judge, district, and filing-year fixed effects.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 15: **Proportional Hazard Analysis: Effect of Reporting Time on Motion Survival**

	(1)	(2)
8-9 Months until Report	0.980**	0.946***
	[0.008]	[0.010]
9-10 Months until Report	0.922***	0.900***
	[0.008]	[0.010]
10-11 Months until Report	0.913***	0.847***
	[0.007]	[0.009]
11-12 Months until Report	0.898***	0.798***
	[0.007]	[0.008]
12-13 Months until Report	0.894***	0.808***
	[0.007]	[0.008]
Observations	420,535	420,212
Survival Model	Cox	Cox
Stratified by NoS, Judge, District, & Filing-Year		Yes
Mean Months Motion Open	6.21	6.21
Mean Reporting Time (months)	10.05	10.05

This table presents hazard ratios for individual reporting month dummies (relative to a baseline hazard rate for motions with fewer than eight months of reporting time). All columns include basic case- and motion-level controls, including calendar day time trends, dummies for the moving party, and a dummy for whether previous summary judgment motions have been filed in the same case. Column (2) is also stratified to allow for independent baseline hazard rates by nature-of-suit, judge, district, and filing-year.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$