

APPENDIX

Table 1A below provides descriptive statistics for all of the variables included in models used in the manuscript and also those included in models appearing only in this appendix.

Table 1A: Descriptive Statistics

	Mean	Std. Dev.	Min.	Max.
Stay granted	0.68	---	0	1
Post-institution	0.53	---	0	1
Time to stay	14.26	10.95	0.17	134.60
Patent count	3.44	3.43	1	30
CBM	0.13	---	0	1
Judge ideology	-0.02	0.33	-0.52	0.66
Simultaneous litigant	0.25	---	0	1
Computer	0.69	---	0	1
Mechanical	0.25	---	0	1
Biological	0.06	---	0	1
PPP judge	0.10	---	0	1
Magistrate	0.07	---	0	1
Woman	0.22	---	0	1
Caseload	6.42	4.22	0.64	21.67
Rocket docket	0.15	---	0	1
<i>Cuozzo</i>	0.43	---	0	1
<i>SAS</i>	0.17	---	0	1

Before turning to our full modeling results and our robustness checks, we first describe the additional variables not mentioned in the manuscript text. Following Boyd's (2013) finding that women judges are more likely to settle cases, we include a dummy variable indicating whether or not the judge is a **woman**. In 2011 Congress authorized the Patent Pilot Program (PPP) in an effort to enhance the expertise of federal district court judges in patent cases (Williams, Eyre, and Cecil 2016). Once a federal judicial district opts into the program judges within that court can designate themselves for PPP service; judges not so designated will still be randomly assigned patent cases, but they can opt out of an assigned patent case. When this occurs, the case is then assigned to a designated judge. The goal of this arrangement is to allow

designated judges to gain greater expertise with patent cases by enhancing their experience hearing patent cases (Semet 2019). It is also worth noting that if they accrue expertise, these judges may be less likely to defer to the perceived expertise of the PTAB (Miller and Curry 2013). Though we have no a priori expectation about its importance, in order to control for the possibility that said experience matters in these cases we include **PPP judge** to indicate if a district judge has chosen to specialize in patent litigation (1 if yes; zero otherwise). We include magistrate judges in our models. In the case of magistrate judges, who are not subject to presidential nomination or senatorial confirmation but sometimes rule on these motions, we follow prior work (Boyd and Sievert 2013; Boyd and Hoffman 2010) by assigning them the average active district court judge ideology score at the time of the magistrate's initial appointment. But it may be that magistrate judges have different decision making constraints, so we include here a **magistrate judge** variable coded 1 when a magistrate judge rules on a motion to stay; this measure takes a value of zero when an Article III judge decides that question.

We include a dummy variable for those courts known for being particularly likely to reach resolutions in patent cases quickly, referred to in the literature as **rocket dockets**. As defined by Vishnubhakat (2011), these courts are the Eastern District of Texas, the Eastern District of Virginia, and the Western District of Wisconsin. Lastly, we include a measure of the **case loads** faced by each district court—coded using official case load statistics from the federal government. This variable is included as it may be the case that the pressure to grant a stay increases as the workload in a court increases.

Table 2A contains full results with all control variables included. None of the control variables is a statistically significant predictor of the likelihood of granting a patent, although one—the rocket docket variable—approaches significance with a p-value of 0.08. The

coefficient for this variable implies a 15-percentage point decrease in the likelihood that a stay is granted. This makes sense, because a key attraction to these courts must be that plaintiffs are more likely to move a case to expensive stages of discovery than they are elsewhere. In all models * represents a significant coefficient ($p < 0.05$, two-tailed).

Table 2A: Full Model Results

	Model 1A	
	Coeff.	Clustered S.E.
Post-institution	0.96*	0.28
Time to stay	-0.014	0.011
Patent count	-0.10*	0.04
CBM	0.48	0.27
Judge ideology	0.76*	0.37
Simultaneous litigant	0.74*	0.29
Computer	0.21	0.29
Mechanical	0.18	0.28
PPP judge	-0.20	0.24
Magistrate judge	-0.13	0.34
Woman	0.06	0.28
Rocket docket	-0.77	0.44
Case Load Total	0.04	0.03
Constant	0.38	0.26
N		1005
Court Clusters		62
Judge Clusters		290
LR Test		118.63 (0.00)
PRE		0.09

Table 3A displays models with a series of variables used as robustness checks. As an alternative to our coding of ideology in the manuscript, we use the simple proxy of the appointing president in Model 2A. The variable **GOP** is coded 1 if the judge was appointed by a Republican president and 0 otherwise. The coefficient on this variable is positive and statistically significant, indicating no difference in the influence of ideology (or partisanship) based on our coding choices in the manuscript. In Model 3A we include a dummy variable indicating whether

a stay decision was made before or after the Supreme Court’s decision in *Cuozzo Speed Technologies v. Lee* (2016). In *Cuozzo*, the Court stated that PTAB proceeding need not use the exact same standards as those used in district courts when construing a patent’s validity. The *Cuozzo* variable is insignificant and its inclusion does not change our conclusions. Similarly, we include a variable, *SAS*, to capture whether a stay decision is made after another consequential Supreme Court decision—*SAS Institute, Inc. v. Iancu* (2018). *SAS* required the PTAB to decide the patentability of all the claims challenged in an IPR proceeding, not just some of them. Again, this indicator variable is insignificant and does not alter our conclusions with respect to other variables.

Table 3A: Robustness Checks

	Model 2A		Model 3A		Model 4A	
	Coeff.	Clustered S.E.	Coeff.	Clustered S.E.	Coeff.	Clustered S.E.
Post-institution	0.87*	0.21	0.89*	0.21	0.87*	0.21
Time to stay	-0.016	0.011	-0.017	0.011	-0.016	0.011
Patent count	-0.10*	0.04	-0.10*	0.04	-0.10*	0.04
CBM	0.43*	0.22	0.34	0.24	0.42	0.22
Judge ideology	---	---	0.64*	0.28	0.69*	0.29
GOP judge	0.46*	0.18	---	---	---	---
Simultaneous litigant	0.70*	0.28	0.63*	0.31	0.69*	0.28
Computer	0.11	0.36	0.14	0.33	0.10	0.36
Mechanical	0.22	0.28	0.28	0.27	0.22	0.28
<i>Cuozzo</i>	---	---	-0.39	0.23	---	---
<i>SAS</i>	---	---	---	---	-0.04	0.20
Constant	0.38	0.22	0.76	0.25	0.60	0.24
Controls		No		No		No
N		1005		1005		1005
Court Clusters		62		62		62
Judge Clusters		290		290		290
LR Test		92.13 (0.00)		99.46 (0.00)		92.32 (0.00)
PRE		0.04		0.06		0.02

In Table 4A we include two models that gradually expand our set of cases beyond the “standard case” noted in the literature. We do this by first including stay motions initiated by the

plaintiff rather than the defendant (Model 5A) and then also including reexamination proceedings (the predecessor version of the IPR) (Model 6A). This expansion does not change our conclusions.

Table 4A: Expansion Beyond the “Standard Case”

	Model 5A		Model 6A	
	Coeff.	Clustered S.E.	Coeff.	Clustered S.E.
Post-institution	0.83*	0.21	0.83*	0.20
Time to stay	-0.017	0.011	-0.019*	0.009
Patent count	-0.10*	0.04	-0.10*	0.04
CBM	0.43*	0.19	0.45*	0.20
Judge ideology	0.70*	0.28	0.68*	0.28
Simultaneous litigant	0.71*	0.28	0.75*	0.28
Computer	0.18	0.34	0.14	0.36
Mechanical	0.32	0.26	0.27	0.27
Constant	0.54	0.22	0.58	0.25
Controls		No		No
N		1023		1078
Court Clusters		62		64
Judge Clusters		294		309
LR Test		93.50 (0.00)		98.00 (0.00)
PRE		0.04		0.03

Lastly, in Table 5A we include results described in the manuscript for the three-way interaction between judicial ideology, simultaneous litigants, and patent count. Graphical interpretation of this model is the easiest way to make sense of the results, as proffered in Figure 3 in the manuscript.

Table 5A: Three-way Interaction Model

	Model 7A	
	Coeff.	Clustered S.E.
Post-institution	0.89*	0.21
Time to stay	-0.017	0.011
Patent count	-0.07*	0.03
CBM	0.44	0.23
Judge ideology	0.60	0.42
Simultaneous litigant	1.48*	0.38
Computer	0.10	0.35
Mechanical	0.28	0.27
Judge ideo.*Sim. lit.	0.02	1.11
Judge ideo.*Patent count	-0.03	0.06
Sim lit.*Patent count	-0.20*	0.05
Judge ideo.*Sim. lit.*Patent count	0.33*	0.15
Constant	0.44	0.24
Controls		N
N		1005
Court Clusters		62
Judge Clusters		294
LR Test		113.70 (0.00)
PRE		0.06