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Decision Inputs of Administrative Law Judges

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DECISION INPUTS OF ADMINISTRATIVE LAW JUDGES

By

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Abstract

Administrative Law Judges (ALJs) play an important role in the Social Security Administration (SSA) as they hear appeals from individuals who have been denied Social Security Disability Insurance (SSDI) benefits. As a result, the decisions of these judges have important effects on both individual welfare and government finances, especially given that the SSDI trust fund is expected to go bankrupt within the next few years. This paper examines how disability dispositions, decisions, and award rates by ALJs in the SSA vary according to factors such as gender, tenure with the SSA, age, general experience in the legal profession, and salary. The data, which span the years 2005-2011, are obtained from the SSA's Office of Disability and Adjudication Review (ODAR), which publicly reports statistics such as the number of appeals heard and the percentage of favorable decisions by each judge, along with internet searches to obtain information on the personal attributes of the judges. Understanding the factors affecting the decisions of these judges could be useful for identifying fruitful avenues for the SSA to control spending through this program, and more generally could provide insight on how the attributes of highly educated professional workers affect their work output.

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Introduction

The Social Security Administration (SSA) is a federal program responsible for providing disability benefits to individuals that qualify. The SSA provides several programs in which an individual can receive disability benefits. These programs include Title II, which is covered or insured employment, and Title XVI, which covers individuals with limited income or resources.[1] The Administration uses Medical Experts (ME's) and Vocational Experts (VE's) to provide evidence at hearings conducted by Administration Law Judges (ALJ).[2] The process for applying, and potentially qualifying, for disability benefits is a four level administration review process. If an individual applies, and it is determined by an ALJ that the applicant does not, or no longer, qualifies for benefits, he or she has right to request a review of the decision. Under that review, which is called a "reconsideration determination," a different ALJ, who had no part in the original decision, will review the request and make a determination on whether or not the individual qualifies.[3] If the individual is again denied, they have the right to a hearing before an ALJ. Annually, more than "1,300 ALJs render over 700,000 decisions at the hearing level."[4] If the applicant disagrees with the decision made at the hearing level, they

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[1] Social Security Administration. "Medical and Vocational Experts."
[2] Social Security Administration. "Medical and Vocational Experts."

[3] Social Security Administration. "What You Need to Know to Request a Hearing Before an Administrative Law Judge."
[4] Social Security Administration. "Information about the SSA's Office of Disability Adjudication and Review."

have the right to file an appeal with the Appeals Council as long as it's filed within 60

days. The Appeals Council will either issue a decision, or defer to the case back to an

ALJ for further review. The Appeals Council listens to over 165, 000 hearing

decisions appealed by claimants each year.[5] If the applicant disagrees with the

Appeal Council's determination, the last option for a claimant is to file suit in a

federal court. If this route is pursued by the claimant, the Appeals Council collects

and transfers all of the relevant case information to a federal court. The SSA

processes over 16,000 cases appealed to federal courts each year.[6]

The Social Security Administration disability benefit program has become

under increased media and congressional scrutiny in recent years. The unusually

high award rates of ALJs have created a number of concerns, and have largely been

ignored, or not addressed, by lawmakers. In fact, the funds dedicated to this

program are expected to be completely insolvent by 2016, and, as a result, about

nine million Americans currently receiving benefits would see their checks reduced

by 21 percent.[7] Originally, the program only provided benefits to individuals with

"debilitating conditions," such as a heart attack or stroke.[8] In 1980, the Reagan

Administration significantly lowered the amount of federal funds dedicated to this

program, which a inspired major backlash among thousands of Americans

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[5] Social Security Adminstration. "Information About Requesting Review of an Administrative Law Judge's Hearing Decision."

[6] Social Security Adminstration. "Information About Requesting Review of an Administrative Law Judge's Hearing Decision."
[7] Faler, Brian. "Federal Disability Insurance Near Collapse"
[8] Faler, Brian. "Federal Disability Insurance Near Collapse"

negatively impacted by the decision. As a result, Congress expanded the amount of qualifying conditions, such as depression and back pain, acceptable under the program.[9] This transformed the application process into one of in which review was required to determine whether or not the claimant would qualify. The recent influx of claimants to the disability program has created a massive backlog of cases, which has overwhelmed the ALJs working for the SSA.[10] As of 2012, the backload of cases stood at 1.4 million.[11] Similarly, in 2012, the program came at a cost of $132 billion to American taxpayers, which is "more than the annual budgets of the Departments of Agriculture, Homeland Security, Commerce, Labor, the Interior, and Justice combined."[12] For all the aforementioned reasons, the decisions of these ALJs can have massive welfare and equity implications for millions of Americans.

　　　While a number of experts, in various fields, have looked into the potential influences affecting the decisions of judges, nobody has examined influences of Administrative Law Judges in the Social Security Administration. Taratoot, (2014) examined the influences potentially affecting Administrative Law Judges in the Environmental Protection Agency (EPA); however, the variables in his study were different than those that will be examined by this paper. Taratoot (2014) examined the affect of personal policy preferences, hierarchical controls by higher courts, separation of powers influences, and case and defendant characteristics. He found statistically significant evidence that EPA ALJs are influenced by personal policy preferences, hierarchical controls, litigant characteristics, and case characteristics.

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[9] Faler, Brian. "Federal Disability Insurance Near Collapse"
[10] Faler, Brian. "Federal Disability Insurance Near Collapse"
[11] Faler, Brian. "Federal Disability Insurance Near Collapse"
[12] Faler, Brian. "Federal Disability Insurance Near Collapse"

While the area of focus of his study, namely ALJs, is similar to that of this study, the variables are drastically different; other literature into the potential influences of judge's decisions has looked at differing types of judges, but examined similar independent variables. Collins and Moyer (2008) found that gender and race alone did not have a statistically significant impact on case outcomes; however, when examined together, they found that the combination did in fact have an effect. More specifically, they found that minority female judges were more likely to support criminal defendants than their counterparts on the bench. Peresie (2005) found that Federal Appellate female judges, in gender coded cases, such as sexual discrimination and harassment, were inclined to decide a certain way, as well as influence votes of male judges serving on a bench with at least one female. In regard to the former, she found that females were more likely to support the plaintiff. In regard to the latter, she found that the presence of at least one female judge on a panel increased the likelihood that the male judges on the panel would rule in favor of the plaintiff. Baker (2008) examined whether raising the salary of the federal judiciary would have a impact on the quality judges attracted to the bench. He concluded that raising judicial salaries would not have a significant impact on the overall quality of the Federal Judiciary. He also found that changing judicial salary would not have an impact on voting patterns, citation practices, the time it takes to render a decision, or opinion quality. Choi, Gulati, and Posner, (2009) like the former study, examined whether higher judicial salaries would have in impact on the quality of the Federal Judiciary. They concluded that increasing judicial salaries

is not likely to increase productivity or independence, although it may have an effect on opinion quality, but if so only a small one.

This topic of this study differs from those mentioned above in that it focuses strictly on Administrative Law Judges in the Social Security Administration. It uses panel data to examine how an Administrative Law Judge's, in the Social Security Administration (SSA), dispositions, decisions, and award rates vary according to age, salary, tenure with the SSA, gender, experience in the legal profession. The data, which ranges from 2005 to 2011, is collected from Social Security Office of Disability Adjudication and Review (ODAR), which publicly reports on every individual ALJ as well as on aggregate data of a given office that houses multiple ALJs. ODAR provides data on the total amount of dispositions, decisions, allowances, denials and fully favorable or partially favorable decisions by judge and year. The award rate, which is one of dependent variables in this study, is calculated by dividing the number of fully and partially favorable decisions by the total number of decisions. The background characteristics of judges, which will be used as the independent variables, are obtained through Internet searches with the exception of gender (inferred by the name of the judge or through internet searches); these variables include age, legal experience (time since passing the bar), tenure with the SSA (time since starting with the SSA), and salary. In order to determine whether or not these characteristics have an effect on the total amount of dispositions, decisions, and award rates, this study utilizes linear regression analysis incorporating both ordinary least squares and fixed effects. We find that all of the independent

variables, with the exception of age, have an effect on dispositions, decisions, and award rate.

Literature Review:

While no research has yet been conducted on Administrative Law Judges in the Social Security Administration, Taratoot (2014) examined several factors that may affect judicial decision making of Administrative Law Judges at the Environmental Protection Agency (EPA). However, the variables examined are different than those that will be examined in this study. In addition, the data was collected at the case level; where as the data in this study is aggregated across cases. Nonetheless, the results of this study focused on Administrative Law Judges, and thus, are relevant and worth mentioning, even if superficially. Like Administrative Law Judges in the Social Security Administration, these judges make a once and for all decision either in favor of the respondent or EPA. Taratoot (2014) examined the affect of personal policy preferences, hierarchical controls by higher courts, separation of powers influences, and case and defendant characteristics. The data was collected from the EPA website and ranges from 1992 to 2008, in which there were 238 decisions; the dependent variable, "was the size of the civil penalty, in dollars, issued by the ALJ against the respondent." (Taratoot, p.124) Further, because this variable is continuous, he used least squares regression (p. 128) Tararoot (2014) found that EPA Administrative Law Judges are "influenced by their political attitudes, maintain partial, but not total, independence from political constraints, are subject to hierarchical constraints from the EAB and the Supreme

Court, and, to a limited degree respondent and case characteristics." (p.130) Lastly, Tataroot (2014) argued that understanding the influence of these judges is crucial given the indirect, but significant impact their decisions have on the economy. In sum, Taratoot (2014) found statistically significant evidence that EPA ALJs are influenced by personal policy preferences, hierarchical controls, litigant characteristics, and case characteristics.

Other studies have focused on judges in other types of law, such as federal appellate judges in criminal cases, but examine similar variables, and thus are worth mentioning. In their examination of the different characteristics potentially affecting the decisions of judges on the federal appellate bench, Collins and Moyer (2008) suggested that the focus of any empirical study into the decision inputs of judges should focus on the intersection of multiple characteristic rather than focus on a single characteristic. (Collins and Moyer, p, 219) Collins and Moyer (2008) focused their study on the "intersectionality" of gender and race. Ultimately, they concluded, "minority female judges are more likely to support criminal defendant claims when compared to their colleagues on the bench." (p. 219)

Collins and Moyer (2008) noted that since 1970, the number of female minority judges has steadily risen, but according to studies conducted thus far, there is little evidence to suggest that the increase in female minority judges has led to any significant impact on the decisions being rendered (p. 219). This is not because the increase in diversity hasn't had an effect on the decisions rendered, but rather because the studies in the past have focused on analyzing the relationship between an individual characteristic and the decision rendered; Collins and Moyer (2008)

suggested that a judge is influenced by "a host of personal traits that collectively affect their behavior (p.219)" As a result, the tests conducted in this study examined whether gender and race together affect judicial decision making, as opposed to gender or race alone (p. 219).

Collins and Moyer (2008) inferred that existing literature on the effect of gender seems to suggest that it may affect the outcome of cases, but "only in limited cases." (p.220) Similarly, the empirical data on the effect of race in relation to the decisions by federal judges has been contradictory, and thus, Collins and Moyer (2008) suggested that it cannot conclusively accepted that race alone has an effect on judicial decisions. (p.220) The authors pointed to a study of President Carter's circuit court appointees, which found that African Americans were more likely to support liberal outcomes in criminal appeals cases. (p.220) However, other studies found that there is no significant relationship between race and judicial decisions. (p.220) So, the contradictions and inconsistencies in the existing literature on individual characteristics and judicial outcomes were cited as motivation behind Collin's and Moyer's (2008) study of two independent variables, gender and race, tested together in relation to judicial decision making. (p. 220) Collins and Moyer (2008) write, "It is important to take into account the unique experience of being both female and a member of a racial minority when attempting to discern the impact of demographic factors on judicial behavior." (p.220)

While the "intersectionality" of gender and race is a subject that had generally been unexplored, Collins and Moyer (2008) indicated there had been a number of notable studies. They referred to Miller, Rossi, and Simpson (1986),

which found that there was a difference between minority females and members of other demographics when it came to deciding appropriate punishment for crimes. (p. 220) More specifically, white men and women tended to focus on the degree of the crime in relation to the punishment, while black women seemed to focus more on the individual characteristic, and mitigating circumstances, of the offender. (p. 221) Additionally, it was found that the two groups differed in terms of the extent, or degree, to which the offender would be punished.

Collin and Moyer (2008) differed from those studies in that they, "empirically test whether group membership of federal appellate court judges has a discernable effect on their voting behavior." (p. 222) Their study focused only on criminal cases decided between 1977 and 2001 and included data on votes in individual cases with 6,219 total observations, which included 348 judges. (p. 222) The dependent variables in the study were coded as "liberal" (pro-defendant) or "conservative." (pro-prosecution). The independent variables were gender and race, tested separately, and included in the regression race and gender together. (p. 222) When testing gender and race together they employed a cohort analysis using "caucasian males," "caucasian females," "minority males," and "minority females." (p. 222) It is important to note that the sample size of minority females was very small due to the fact that six only minority female judges served during 1977 and 2001. In addition, they also controlled for variables that may skew the results, such as political ideology, birthplace, age, decisions of the lower court, institutional norms, the changing social norms of different time periods, and the percentage of liberally decided Supreme Court cases dealing with social issues. (p. 223) The authors

utilized binary logistic regression models in their analysis. In addition, they also conducted a logit analysis, which included dummy variables for race and gender. They found that that minority judges were no more likely than their counterparts to support the defendant's position. (p. 223) Similarly, they found no statistically significant relationship between gender and judicial outcome; however, the authors found race and gender together had a statistically significant effect on judicial decision making (p. 223) Thus, they concluded that there is, in fact, a relationship between the "intersectionality" of race and gender and judicial decisions of federal appellate judges in criminal cases. They write,

> "Holding all other variables at their means, the model predicts that minority
> female judges will support the criminal defendant's position in 25.91 percent
> of the cases. White-male judges were predicted to support a liberal outcome
> in 19.01 percent of their cases, white-female judges in 17.52 percent, and
> minority-male judges in 16.15 percent. Thus, female-minority judges were
> approximately between6 to 10 percent more likely to support a liberal
> outcome than males or Caucasian females." (p. 224)

Other studies on judicial decision-making have focused on judicial influences in more gender coded cases, such as sexual discrimination and harassment. Peresie (2005) provided "data to illuminate whether and how the presence of female judges in three-judge appellate panels affect collegial decision making in a subset of gender coded cases – those involving sex discrimination in violating of Title VII of Civil Rights Act of 1964" (Peresie, 1761) Peresie (2005), like Collins and Moyer (2008), suggested that past literature into the subject of the relationship between gender

and judicial preferences had largely been contradictory. In addition, Peresie (2005) also suggested some of the past studies used a small sample size of female judges, which may have had an effect on the results. (p. 1764) This problem manifested itself in Collins and Moyer (2008) in that they only utilized six female judges in testing their hypothesis. In addition, past studies have focused on a broad range of issues in which gender most likely played a less significant role than her area of concentration, Title VII cases. Peresie (2005) also argued that past data on the indirect effect of female judges on their male counterparts had been contradictory and flawed for a variety of reasons. (p. 1765) Perhaps the most relevant is that the studies did not control for significant doctrinal change. As a result, her study used a limited time frame in which there were no significant changes in the Supreme Court or federal statutes, and included control variables such as, past career, age, federal appellate experience, and political ideology. (p. 1766)

Her data was collected from "both published and unpublished decisions on all sexual harassment and sex discrimination cases decided by the federal court appeals between 1999 and 2001 where the plaintiff's cause of action fell under Title VII of the Civil Rights Act of 1964." (p. 1767) The data, which consisted of 556 total cases and 1666 decisions, examined the probability of a pro-plaintiff ruling in which a female judge was on the appellate bench. (p 1767) Of the total cases examined, Peresie (2005) found that the plaintiff lost in 38 percent of the cases in which a female judge was on the panel. However, she also found that the plaintiff won in 62 percent of the cases in which a female judge was on the panel. (p. 1768) Lastly, in cases where there was a mixed gender panel of judges, the dissent rate, which was

roughly 6 percent, indicated, according to Peresie (2005), that male judges were more likely to agree with their female counterpart. (p. 1768) In addition, she also examined the decisions of individual judges on the panel within the data set. She found that female judges ruled for the plaintiff, at 39%, more often than male judges, at 24%. (p. 1768)

In compiling her data, Peresie (2005) used the judge's decision on individual cases ("1" indicates a pro-plaintiff ruling; "0" indicates a ruling against the plaintiff) as the dependent variable; she incorporated two independent variables tested separately. (p 1771) The first independent variable was the gender of the judge; the second independent variable, used to test whether the presence of a female has a significant effect on male counterparts, was the presence of a female judge on the three-judge panel, which takes Collins and Moyer (2008) one step further. The latter is less relevant to this study as ALJs do not make rulings on a panel bench consisting of multiple judges, but rather are the sole decider of disability cases. She also included a large variety of control variables including ideology, race, prior employment, federal appellate experience, age, decision of the lower court, gender of the plaintiff, and whether the plaintiff was a government entity. (p. 1771) Similar to Collins and Moyer (2008), she found that race alone had no statistically significant impact on the judge's decision. When controlling for age and federal appellate experience, which were tested separately, she found no statistically effect. This result is somewhat surprising due to the fact that, as Peresie (2005) noted, "increasing seniority on the federal appellate bench may cause hardening of the bureaucratic judicial arteries." (p.1775)

Peresie (2005) found that "in Title VII sexual harassment and sex discrimination cases, a judge's gender and gender composition of the panel mattered to a judge's decision." (p. 1776) More specifically, she found that both male and female judges were generally inclined to rule against the plaintiff. However, males were significantly more likely to rule in favor of the defendant than their female colleagues. (p. 1776) Peresie (2005) also found that male judges were more likely to rule in favor of the plaintiff when one or more females were on the panel. (p.1778) Peresie (2005) offered four explanations for the statistically significant relationship between gender and judicial voting, which were deliberation, deference, logrolling, and moderation. The deliberation theory suggests that the presence of a female judge in the back and forth deliberation may influence the decision in favor on the plaintiff. (p. 1771) This theory is based on the assumption that a judges main motivation in deciding a case is getting the law right, and, as a result, they are willing to listen to the differing and dissenting opinions of their colleagues. The theory of deference suggests that males are more willing to defer to female judges when it comes to deciding gender-coded cases, especially in cases where the female judge has been subjected to sexual discrimination or harassment. (p. 1783) It is important to note, as Peresie (2005) did, that females may not actually be more knowledgeable when it comes to gender-coded cases, but rather males may view them as such. (p. 1783) The logrolling hypothesis suggests that male judges side with female judges in gender-coded cases in the hopes that the female judge will side with them in future cases. (p. 1785) As Peresie (2005) noted, this may especially be the case when males believe that their female colleagues have strong

opinions in gender-coded cases. (p. 1785) The theory of moderation suggests that male judges may moderate, or even suppress, their general anti-plaintiff inclinations when female judges are on the panel, especially in gender-coded cases. This is based on the assumption that males may believe siding against the plaintiff in the cases may potentially make them appear bias or sexist. (p. 1786)

In sum, Peresie (2005) found that the presence of female judges, specifically in gender coded cases, had an effect both on the outcome of the case and on the voting of male judges on the panel.

Other studies into judicial decision-making have examined the effect of salary on judicial performance; perhaps the two most relevant being Baker (2008) and Choi, Gulati, and Posner (2009). Both studies were conducted after the release of a report on the federal judiciary by Chief Justice of the Supreme Court, John Roberts, which suggested that low judicial salaries are likely to have a devastating impact on the judicial system in the United States.

Baker (2008) analyzed the difference in pay between the private and public sectors of the legal system and whether we should pay federal circuit judges more. Generally, he said that federal judges are displeased with the wages they are currently receiving. Baker (2008) suggested that there are three main arguments these judges, and others, use in support of higher pay for federal judges. First, some argue that declining real salaries being given to federal judges will cause them to the leave the bench, which would create a transaction cost in the form of finding a new judge, introducing him to the system, and thus, temporarily increasing the workload of other judges while the seat is vacant. (Baker, p. 70) In addition, judges planning

on leaving the bench for job prospects in the private sector may be unwilling to rule against potential future employers. However, Baker (2008) disproves this argument; he argues,

> "This argument assumes that the declining-inflation adjusted judicial salaries leads to higher turnover. Yet this does not appear to be the case. Albert Yoon examined the retirement decisions of all district court and federal circuit judges between 1945 and 2000 and found that tenure trends among the federal have held fairly constant over the past half century, notwithstanding the cyclical decline in inflation-adjusted salaries." (p. 72)

Second, if judicial salaries remain where they are, then few private sector lawyers will be attracted to the public sector. This argument assumes, as Baker aptly suggested, that attracting private sector lawyers will be beneficial the judiciary. (p. 72)

> Baker (2008) found that, "holding constant the net cost of taking a judgeship, lawyers who come directly from the private practice perform similarly to those coming from government jobs other judgeships, or academia across a range of judicial performance measures." (p. 72)

The final argument for an increase in the salary of federal judges is that higher salaries lead to higher quality judges. (p. 72) This is based on the argument, known as the "salary matters theory", that higher wages attract higher quality workers. (p. 73) Baker argued that raising federal judicial salaries attracts judges that are more concerned with monetary benefits. As a result, judges concerned with the administrative justice, rather than pecuniary benefits, may be weeded out.

(p.74) Also, Baker (2008) offers the substitution theory to disprove the idea that raising wages will have an effect on the selection of federal judges. (p. 75) He argued that deepening the selection pool, through increased wages, to include candidates more concerned with salary would not be effective because the executive branch already knows who they will select, and if that person declines because of salary concerns, the pool is filled with other candidates that are near perfect substitutes. (p. 75) In other words, "even if low salaries reduce the number of candidates willing to take the circuit judgeship, that reduction might be inconsequential." (p. 75) In order to analyze these theories Baker (2008) examined whether judicial pay affects judicial performance. Furthermore, Baker (2008) said if it were found that pay does not have an effect performance, validity would be added to the substitution theory. On the contrary, if it is found that pay does affect performance, validity will be added to the salary matters theory. (p. 76) However, as he noted, it is difficult to compare judges being paid different salaries because all federal judges receive roughly the same salary.

As a result, Baker (2008) analyzed the federal pay of judges with the foregone wage in the next best opportunity in different regions on the country. Baker (2008) collected data from 1974 to 2004 on the present value of foregone wages in the form of law firm salaries in the region compared to the accepted present value federal judicial wage at the time of confirmation, which he called the "direct comparison approach." (p. 77) The judicial wage at the time of confirmation was deducted from the foregone wage in the private sector, which provided the net cost. (p. 78)

The three hypothesis Baker (2008) offered, before running regressions are as follows: (1) "paying circuit judges more creates a less ideological judiciary;" (2) "paying circuit judges more creates a harder working judiciary;" (3), "paying circuit judges more creates a judiciary less concerned with its own influence." (p. 85) To test the three hypotheses, he used a regression model to estimate the coefficients of the amount of money a judge gave up to take the bench in relation to the measure of judicial performance. (p. 85)

To measure judicial ideology, Baker (2008) looked at two variables, partisan voting in controversial cases and citations. In reference to the latter, he looked at how often a judge cited an outside opinion, or precedent, due to the fact that judges have full discretion in determining when, and how often, they will cite. (p.85) This is based on the assumption that partisan judges don't typically cite opinions of judges of an opposing political party. The data consisted of 4958 decisions and 14,874 individual judicial votes, and, controled other factors that may influence a judge's decision, namely, "the politics behind the judicial nomination process." (p. 86) The dependent variable was the probability that the judge casts a liberal vote in a controversial case, while the independent variable incorporated an ideology score of the confirmation process. (p. 88)

In regard to this first hypothesis, Baker (2008) concluded from his results that raising judicial salary would not have an impact on voting patterns in controversial cases. Similarly, he found no statistically significant evidence that low judicial salaries result in a more ideological judiciary. (p. 89)

In regard to hypothesis two, Baker (2008) used proxies, namely the dissent rate in controversial cases and the amount of time it takes to deliver a decision after an oral argument is heard, as a means of quantifying the work effort of a particular judge. (p. 98) He said, dissent serves as an appropriate proxy for work ethic because it takes significantly more time to draft and compile a dissent in comparison to joining a majority opinion. (p.98) In addition, Baker (2008) accurately suggested, a judge with a lackluster work ethic will write fewer dissents because "he bears the cost of dissenting, while the benefits flow to others." (p. 99) Accordingly, the dependent variable for this hypothesis was the probability a judge writes a dissent in a controversial case, while the independent variables were the same as the hypothesis (1). (p. 99) In addition, Baker controlled for the difference in caseload across different circuits. (p. 99) Interestingly, and in perhaps relevant to subject examined by this paper, is the theory, suggested by Baker (200), that high caseload may make a judge more likely to dissent simply because he or she does not have enough time to work through the details of the case. (p. 99) In other words, the judge may be inclined to rule in favor of the plaintiff to reduce the time spent on the case and, as a result, decrease his caseload. Baker (2008) found the relationship, between salary and dissent rates, to be significant, but only slight. (p. 101) In regard to his second proxy for the work effort of judges, Baker (2008) used the speed of disposition after hearing an oral argument as the dependent variable, with the same previous independent variables, while controlling for whether the majority opinion faced a concurring opinion or dissent. (p. 105) The results were not statistically

significant, which suggested that low judicial salaries do not have an effect on the speed of disposition. (p. 105)

In his third hypothesis, Baker (2008) tested whether a relationship exists between judicial salary and concern for judicial influence. (p. 105) The salary matters theory, according to Baker (2008), suggests that judges who accept lower salaries will be more concerned with the quality and influence of the opinions they draft. (p. 106) Baker (2008) tested both the total influence (raw number of citations to a judges opinion) and average influence (number of citations per opinion) neither of which were statistically significant indicating that a potential raise in judicial salaries would not have a significant impact on the quality of opinions. (p. 109)

The main conclusion of Bakers study was that there exists no relationship between financial sacrifice and judicial outcomes; therefore, any policy proposal to raise judicial salaries cannot be justified. (p. 112) As Baker (2008) states, "Lower pay does not impact voting patterns, citation practices, the speed of decisions rendered in controversial cases, or opinion quality." (p. 112)

Choi, Gulati & Posner (2009) also examined the impact of judicial salaries on judicial performance. The authors suggested that the widely accepted economic assumption that all workers seek to maximize wealth might not apply to judges as they could certainly earn more money in the private sector. Furthermore, they argued that many judges are attracted to the position for pecuniary benefits, which include, but are not limited to, ability to influence policy, leisure seekers, status seekers, and judges who derive utility from serving justice. (Choi, Gulati & Posner, p. 52) Accordingly, the authors argued that a potential pay increase would incentivize

judges to work harder only when there is risk of termination, but this does not apply to federal judges as most of them have tenure or life terms. (p. 52) As a result, and unlike Baker (2008), the judges selected in this study are divided into two groups: those that have a life term and judges that have a fixed term, at the end of which the process of reelection takes place. (p. 52)

The authors argued that raising judicial salaries would only improve the quality of judges if those who select judges, usually some part of the executive branch, have good incentive, and are objective in their selections, and if they can effectively distinguish between "good" and "bad" judges. (p. 56) The data collected by the authors was a compilation of decisions of judges of higher courts from 1998 to 2000. (p. 50) It was pulled from higher courts because, "in each of the fifty states, we have a set of judges doing similar tasks, but laboring under different conditions." (p. 64) In other words, this allowed the author to see how different input variables may affect judicial output. Similar to Baker (2008), the data was used to examine how higher judicial salaries, and to what extent, may affect judicial performance, in terms of productivity, opinion quality, and independence. (p. 50)

Their productivity variable is measured in terms of published opinions; it is based on the assumption that judge will put in significantly more time and effort into an opinion that ends up getting published. (p. 66) Moreover, they claimed, a less productive judge may drag out the time it takes to write an opinion leading to fewer potential publications in a given time period, or simply write a summary disposition. (p. 66) However, the authors argued that a state may vary in what it deems to be

publishable, so they controlled for this by adding an alternate variable to measure effort, the number of pages published. (p. 66)

The proxy used by the authors to measure opinion quality was the number of citations by out-of-state, state judges, out-of-state federal judges, and references in law reviews. (p. 66) The authors said that this is based on the assumption that a citation is a product made for consumer and the number of citations is a reflection of its quality. (p. 66) In addition, the authors incorporated out-of-state judges because their citations are voluntary, while in-state-judges are normally bound by precedent, and therefore, required to cite specific opinions. (p.67)

The proxy used for independence, which was defined as "free from the influence of bias and partisan pressures," used the number of opposing opinions issued against members of the same political ideology. (p. 68) This was defined as an opposing opinion written by a judge, or received by another judge, of the same political ideology. (p. 68) Further, the authors normalized this variable to account for the varying numbers of partisan judges across different circuits; some circuits may have more republicans than democrats, and vice versa. (p. 69)

The authors prefaced their study by noting that, due to data limitations, it is difficult to establish the correct causal story. In other words, it's hard to discern whether the higher wages lead to more productivity or more productivity leads to higher wages. (p. 74) The data was drawn from high court decisions from 1998 to 2000, including data from 52 states. (Oklahoma and Texas have two high courts) Further, "The dataset contains 408 judges, approximately 8 per court. The average judge spent 2.65 of the 3 years in our sample period on the court. Each judge wrote

an average of 24.9 opinions per year." (p. 74) The data on productivity was aggregated over a year, and independence was aggregated over the three years. (p. 75) The authors employed a cross-sectional analysis and chose to introduce a number of state level controls rather than employing state fixed effects. (p. 76) As a proxy for experience, which is similar to measure in this paper, the authors subtracted the year a judge graduated from law school from the year 1998; they expected that more experienced judges decide cases with greater skill and speed. (p. 79) In addition, the authors introduced variables for age and gender due to the fact that at least some past literature, namely Collins and Moyer (2008) and Peresie (2005), concluded that these variables can have an impact of judicial decisions. (p. 79)

The authors estimated that judicial salaries are only weakly correlated with higher productivity. In fact, "for a 10,000 increase in salary, effort increased by 6.6 percent." (p. 83) Interestingly, and perhaps not surprisingly, the authors found that productivity is not positively correlated with job security. They concluded that increases in tenure results in lower productivity, and is significant at the 5 percent level. (p. 83) In other words, the less likely it is that a judge is removed from the bench, the less productive he or she will be. Similarly, they found that for judges with shorter the tenure, an increase in salary will have larger effect on productivity compared to judges with longer tenure. (p. 88)

In regard to opinion quality, the authors found the correlation to be small, but statistically significant. More specifically, they found that a "10,000 increase in salary would lead to a 1 percent increase in the number of outside state citations per

opinion", which as previously mentioned, is a proxy for quality. (p. 91) Also, they found that greater pay correlates with opinion quality with judges with long tenure and lifetime employment, but not short tenure. (p. 94) The authors' main takeaway from the tests on opinion quality is this: when determining whether increased salary will affect opinion quality, mitigating circumstances, in terms of employment conditions, matter. (p. 96)

Lastly, in regard to independence, the authors concluded that the data did not support the position that higher salaries lead to more independent judges. (p. 96) They found that higher salary does not have a significant effect on independence, even with judges with different tenure agreements. (p. 99)

In conclusion, Choi, Gulatie, and Posner (2009) found that increasing salaries is not likely to increase productivity or independence; it may have an effect on opinion quality, but only a small one, if at all. Baker (2008) and Choi, Gulatie, and Posner (2009) utilized similar independent variables, such as productivity and judicial diligence, court citations as proxies, and judicial independence, and collectively came to the conclusion that raising judicial salaries will not have a significant impact on judicial performance.

Data Description:

The SSA offers several types of disability benefits, including Title II (covered or insured employment) and Title XVI (covering individual with limited income or resources). "The Office of the Chief Administrative Law Judge directs a nationwide field organization consisting of 10 regional offices, 168 hearing offices (including 6

satellite offices), 5 national hearing centers, and 2 national case assistance centers."[13] All of the offices are staffed with Administrative Law Judges who preside over hearings as well appeal cases. Each year, more than 1,300 ALJs render over 700,000 decisions at the hearing level.[14] If the claimant disagrees with the decision made at the hearing, they can file an appeal, within 60 days with the Appeals Council, which will either decide on the case or refer the claimant back to an Administrative Law Judge for further review.[15] The Appeals Council listens to over 165, 000 hearing decisions appealed by claimants each year.[16] If the claimant disagrees with the Appeal Council's decision, he or she can file a civil suit in federal court. The SSA then prepares all claim information to be transferred to a federal court, in which a final decision will be rendered. The SSA processes over 16,000 cases appealed to federal courts each year.[17]

The data provided for each individual Administrative Law Judge includes hearing office name, total dispositions, decisions, allowances, denials and fully favorable or partially favorable decisions.[18] The SSA also provides aggregate data on the total amount of dispositions, decisions, allowances, denials and fully favorable or partially favorable decisions for each regional hearing office. The award rate for an

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[13] Social Security Administration. "Information about the SSA's Office of Disability Adjudication and Review."

[14] Social Security Administration. "Information about the SSA's Office of Disability Adjudication and Review."

[15] Social Security Administration. "Information About Requesting Review of an Administrative Law Judge's Hearing Decision."

[16] Social Security Administration. "Information About Requesting Review of an Administrative Law Judge's Hearing Decision."

[17] Social Security Administration. "Information about the SSA's Office of Disability Adjudication and Review."

[18] Social Security Administration. "ALJ Disposition Data"

individual ALJ will be used as the dependent variable along with total dispositions and decisions. The total number of dispositions is the number of cases heard by that particular judge. The number of decisions, either favorable, partially favorable, or denial, is number of cases decided by an individual judge. The background characteristics, which will be used as the independent variables, of judges were obtained through Internet searches. It was not possible to obtain background data on all the ALJs. The independent variables include, age, gender, legal experience, tenure with the SSA, and salary.

The judge's age is calculated by finding a judges' age in some past year through an Internet search and converting the age to the year in which the data for that judge are reported. If the judge appears in multiple years in the data file, his or her age is updated for each of those years.

The variable "gender" is inferred by looking at their names, or through internet searches in ambiguous cases. The variable for gender is coded as "1" for female and "0" for male. This variable will have the largest sample size among all our independent variables and gender can be inferred for nearly all judges in the ODAR file.

The variable "legal experience" is calculated by subtracting the year a judge passed the bar from the year in which the judge is currently observed in the data. Like age, this variable is updated sequentially for each year the judge appears in the data file.

The variable "tenure" is calculated by finding the year a judge started with the SSA through an Internet search and subtracting that from the year a judge is

currently observed in the data. Like age and "legal experience" the variable is updated for each year the judge appears in the data.

The variable "salary" of a judge is obtained through Asbury Park Press, which publicly releases data on federal employees.[19] The data on the website is only for one year, so we obtain multiple years of data from multiple versions of the same site.

It is important to note that given that the aforementioned variables are not publicly released by the SSA, and had to be found using Internet searches, the sample size for many of variables is relatively small. As a result, the regressions will generally be limited to examining each variable individually as opposed to controlling for all of them at once.

Methods:

This study utilizes two main econometric methods, which can both be applied to the analysis of panel data, to determine whether or not background characteristics of ALJs have an effect on dispositions, decisions and award rates. Panel data is a data structure in which a set of individuals is observed at multiple points in time. In this particular case, the panel data can best be characterized as unbalanced due to the fact that there are some years in which there is no data available for an individual ALJ. The data collected on the ALJs ranges from 2005 to 2011; accordingly, the panel data encapsulates all available information on

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[19] Asbury Park Press. "Federal Employees."

dispositions, decisions, award rates, age, gender, experience, and legal experience from 2005 to 2011.

The first method utilized is the standard ordinary least squares regression (OLS). Under this model, we ignore the panel structure of the data and treat observations on the same judge as independent. As a result, if there are characteristics other than those included in the model, that have an effect on the dependent variable, then the coefficient estimates may be biased. In this particular study, OLS may indeed produce biased estimates due to the fact that it is difficult to control for multiple background traits such as the judge's innate leniency, views on social programs, or how cases in the office are assigned. In this study three separate OLS regressions are run for each of the three dependent variables (dispositions, decisions, and award rates) In each of the three equations, the four independent variables are tested individually as well as collectively; first, gender is tested with salary; second, gender, salary, and legal experience are tested together; third, gender, salary, and age are tested together; fourth, gender, salary, and tenure are tested together; fifth, gender, salary, age, and legal experience are tested together. The estimated equations will therefore be of the following form: $Y_{it} = \beta_0 + \beta_1 X_{it} + \varepsilon_{it}$ where Y_{it} is the independent variable, X_{it} is the vector or control variable. Note that i indexes individual judges and t indexes time periods.

Since there are multiple years of data for each judge, one can estimate panel data regressions by fixed effects; accordingly, the second model this study utilizes fixed effects. This method allows one to difference out time-invariant unobserved characteristics, which may affect dispositions, decisions, or award and be correlated

with the independent variables. If there are constant unobserved traits correlated with observed background traits (or independent variables) then the fixed effects model will eliminate these unobserved traits as a potential source of bias. However, in differencing out unobserved traits, the method prevents us from being able to measure the effect gender, as it is constant over time. Accordingly, we estimate separate fixed effect regressions for men and women to determine if the effect on the independent variables varies by gender. As with the previous model, three separate tests are run for each of the independent variables. In addition, the pairing of independent variables tested in this model are the same as those in the OLS model.

We had several expectations prior to testing the data. First, we expected that the additional years of legal experience and tenure would result would cause a judge to be less generous in granting disability benefits. This is due to the "hardening effect" discussed in Peresie (2005). It could also could be a result of a more experienced judge's ability recognize false claims for disability benefits. We did not expect to see a significant effect of salary due to the fact salaries are largely fixed based on seniority and location. Lastly, we did not expect gender to have a significant effect on award rates given neutrality of Social Security disability cases; it is far more likely, as Peresie (2005) found, that gender has an effect on judicial decision-making in gender-coded cases.

Results:

Table 1 presents the OLS regression results for the number of dispositions by a judge. The results in column (1) indicate that women have 43.1 fewer dispositions per year than men, holding all other factors constant. We also see that salary has a positive but diminishing effect on the number of dispositions that a judge makes in a given year. The results for the year dummies indicate that dispositions were lower in the year 2008 compared to the reference year of 2011, but there are no other significant differences by year in these data.

Table 1. OLS Regression Results for Dispositions

Variables	(1) Coefficient (Std. Error)	(2) Coefficient (Std. Error)	(3) Coefficient (Std. Error)	(4) Coefficient (Std. Error)	(5) Coefficient (Std. Error)
Female	-43.063*** (6.2199)	-52.135*** (8.5145)	-88.95 (61.5702)	-37.7814* (21.98135)	-89.256 (58.2722)
Salary	0.4430*** (0.0042)	0.0452*** (0.0061)	0.09098 (0.0779)	0.05777*** (0.01512)	0.0672061 (0.0753)
Salary Squared	-0.1367*** (0.0148)	-0.14*** (0.0215)	-0.3012 (0.2687)	0.1867*** (0.05322)	-0.2079 (0.2603)
Legal Experience	X	0.0019 (0.4892)	X	X	-14.919*** (3.5338)
Tenure	X	X	0.686 (1.52978)	.685993 (1.5298)	X
Age	X	X	-2.363 (2.988)	X	5.726327 (3.8799)

Year 07	2.8421 (9.6465)	8.1024 (13.9091)	-55.9601 (132.832)	-33.0877 (37.9084)	61.13598 (131.8638)
Year 08	-31.569*** (8.7971)	-36.31*** (12.4055)	-38.8572 (121.5722)	-79.5431** (33.2632)	45.81648 (119.1366)
Year 09	-6.0851 (8.4903)	-11.6979 (11.8664)	-8.6522 (101.7067)	-38.34096 (32.0044)	28.6903 (98.04488)
Year 10	-9.0011 (8.303377)	-7.9032 (11.714)	70.05969 (104.9109)	-40.2216 (31.33307)	95.25459 (101.493)
Constant	-3118.185 (301.6285)	-3182.8*** (434.8857)	-6149.608 (5552.716)	-3980.5*** (1061.545)	-4773.481 (5350.35)

Estimates are significant at the ***(.01), **(.05), *(.10) level

In column (2), which adds legal experience to the model, we obtain essentially the same results for gender, salary, and the year dummies, although the effect of gender is slightly smaller and the linear effect of salary is much smaller. This regression suggests that, controlling for the gender and salary of the judge, legal experience does not have a significant effect on the number of dispositions. In column (4), which adds tenure the model, we see similar results as (1) and (2) for gender and salary, as well as the year dummies. In column (5), the results indicate that, when controlling for age, salary, and gender, for every additional year of legal experience, the number of dispositions falls by 14.92 and the result is significant.

Table 2 presents the OLS regressions results for the number of decisions by a judge. The results in column (1) indicate that women issue 37.65 fewer decisions per year than men, holding all other factors constant. We also see a positive, but

diminishing, effect of salary on the number of decisions issued in a given year. The

dummy variables indicate that the number of decisions issued in 2008 and 2009

were lower in comparison to 2011.

Table 2. OLS Regression Results for Decisions

Variables	(1) Coefficient (Std. Error)	(2) Coefficient (Std. Error)	(3) Coefficient (Std. Error)	(4) Coefficient (Std. Error)	(5) Coefficient (Std. Error)
Female	-37.6446*** (5.3072)	-44.6437*** (7.199562)	-63.6202 (54.2268)	-31.0835 (18.98004)	-60.21848 (49.2938)
Salary	0.0374*** (0.00364)	0.03832*** (0.0052)	0.06521 (0.06861)	0.0457*** (0.01305)	0.03979 (0.06368)
Salary Squared	-0.1162*** (0.0127)	-0.1194*** (0.0182)	-0.2115 (0.236689)	-0.14588*** (0.4595)	-0.1125 (0.2202)
Legal Experience	X	-0.0247894 (0.4136)	X	X	-14.0844*** (2.9893)
Tenure	X	X	X	-0.5404 (1.3209)	X
Age	X	X	-2.9208 (2.6322)	X	4.3392 (3.2821)
Year 07	0.4071 (8.230932)	2.8792 (11.7616)	-21.225 (116.9887)	-18.87048 (32.7325)	90.572 (111.5464)
Year 08	-37.9804*** (7.5048)	-41.5036*** (10.48594)	-42.68961 (107.0723)	-76.0991*** (28.7214)	34.25487 (100.7803)
Year 09	-11.9673* (7.2444)	-19.1641* (10.0341)	17.46925 (89.57613)	-37.4582 (27.6346)	14.13398 (82.93836)

Year 10	-4.52061 (7.0849)	-4.43155 (9.90528)	62.95583 (92.39812)	-34.08462 (27.0549)	80.82814 (85.8552)
Constant	-2617.01*** (257.3674)	-2673.14*** (367.7358)	-4375.981 (4890.443)	-3160.42*** (916.6031)	-2855.123 (4525.981)

Estimates are significant at the ***(.01), **(.05), *(.10) level

In column (2), we obtain a slightly smaller effect for gender and a nearly identical result for salary. The dummies, like (1), also indicate the number of decisions were lower in the years 2008 and 2009 in relation to 2011. In Column (4), we see a similar effect of salary as (1) and (2), as well as a decrease in decisions issued 2008 in relation to 2011. We also see that there is no significant relationship, holding gender and salary constant, between legal experience and the number of decisions. However, in Column (5), when we add age to the control variables, we see that every additional year of legal experience results in a 14.08 reduction in the number decisions, and the result is significant at the .01 level.

Table 3 presents the OLS regression results for the award rates of a judge. In column (1), we see no significant relationship between gender and award rate. The results indicate that salary has a negative, but diminishing effect on award rate; thus, higher paid judges are less generous, but at a diminishing rate.

Table 3. OLS Regression Results for Award Rates

Variables	(1) Coefficient (Std. Error)	(2) Coefficient (Std. Error)	(3) Coefficient (Std. Error)	(4) Coefficient (Std. Error)	(5) Coefficient (Std. Error)
Female	.00285	.02241***	-.0026	.00387	.00496

	(.0048)	(.0065632)	(0.0264)	(.0157734)	(.02657)
Salary	-.00003*** (3.32e-06)	-.00003*** (4.75e-06)	-.00004 (.0000334)	-.00003*** (.0000108)	-.0000462 (.0000343)
Salary Squared	.0001*** (.00001)	.0001*** (.00017)	.0001 (.0001)	.00001*** (.00004)	.0001 (.0001)
Legal Experience	X	.00182*** (.000377)	X	X	.00257 (.0016)
Tenure	X	X	X	.00066 (.0011)	X
Age	X	X	-.00059 (.0012807)	X	-.0033** (.0018)
Year 07	.1125*** (0.0074931)	.10699*** (.01073)	.1955*** (0.0569)	.1345*** (.0273)	.19021*** (.0601)
Year 08	.11155*** (.0068)	.10894*** (.00959)	.2014*** (.05209)	.1154*** (0.02401)	.1996*** (.0543)
Year 09	.09036*** (.0066)	.089123*** (0.00917)	.1903*** (.04358)	.0897*** (.0231205)	.1773*** (.0447)
Year 10	.0556*** (.0064617)	.05062*** (.0090579)	.1277*** (0.04495)	.0601*** (.0226384)	.1132** (.04626)
Constant	2.9512*** (.2348)	2.80394*** (.33618)	3.3557 (2.3794)	2.6767 (.76207)	3.84788 (2.4388)

Estimates are significant at the ***(.01), **(.05), *(.10) level

In column (2), the results show females have award rates that are two percentage points higher than males. Column (2) the results again indicate a negative, but diminishing effect of salary. We also see that for every additional year of legal experience, when controlling for gender and experience, the award rate increases by 0.0018 annually, and the result is significant at the .01 level. Column (4) also demonstrates a negative and diminishing relationship between salary and award rate, but has an insignificant tenure with SSA effect. In column (5), we see that, holding gender, salary and legal experience constant, a one-year increase in age results in a reduction of .003 in the award rate, but the result only significant at the 0.05 level.

The results for the dummies in all columns indicates that the award rates generally decreased from 2007 to 2011, which is perhaps in indication that the judges, as a whole, became aware of the fact that they could not afford to maintain such high award rates. In addition, it may also be a result of increasing media and congressional attention on the SSSI program in general and the generosity of judges in particular.

Summary of results for OLS:

The results for OLS indicate that legal experience results in fewer dispositions and decisions, but higher award rates. We also see that women generally had fewer dispositions and decisions and slightly higher award rates. Our coefficients also suggest that salary has a positive, but diminishing effect on dispositions and decisions; and a negative and diminishing effect on award rates. So higher paid judges have more dispositions and decisions, at a decreasing rate, and lower award rates, also at a decreasing rate. Lastly, it is important to note that for all the OLS regressions there was no statistically significant relationship between tenure and dispositions, decisions, and award rates.

Table (1) presents the fixed effects regression results for dispositions. Before discussing the results of, it is important to note that the variable gender is omitted from all regressions due to the fact that gender remains constant over time, and thus is differenced out.

Table 4. Fixed Effects Regression Results for Dispositions

Variables	(1) Coefficient (Std. Error)	(2) Coefficient (Std. Error)	(3) Coefficient (Std. Error)	(4) Coefficient (Std. Error)	(5) Coefficient (Std. Error)
Female	(Omitted)	(Omitted)	(Omitted)	(Omitted)	(Omitted)
Salary	.073215*** (-.00482)	.07021*** (.00878)	.06759 (.05544)	.08483*** (.0161868)	.070928 (.05673)
Salary Squared	-.24598*** (.0183)	-.2328*** (.0257)	-.2426188 (.1999)	-.2892*** (.06093)	-.249365 (.204569)
Legal Experience	X	16.8136*** (6.0848)	X	X	1.92457 (37.0612)
Tenure	X	X	X	32.9066* (16.8231)	X
Age	X	X	-24.2771 (244.886)	X	(Omitted)
Year 07	-86.4901*** (17.66465)	(Omitted)	-144.7455 (982.3369)	(Omitted)	(Omitted)
Year 08	-99.6869*** (13.71711)	-45.2931*** (9.7619)	-97.90955 (742.9647)	-65.3842** (27.02668)	12.28924 (42.9824)
Year 09	-46.465*** (9.6361)	-14.7686 (9.4791)	-25.9589 (491.2114)	-39.2199 (25.2472)	38.5274 (49.9937)
Year 10	-30.6927*** (7.5634)	-17.244* (9.4529)	6.5703 (248.8363)	-49.5337** (24.9495)	45.3109 (56.6725)
Constant	-4936.46*** (319.0112)	-5337.24*** (578.8374)	-2402.712 (17700.9)	-6025.8*** (1149.497)	-4590.898 (4916.574)

Estimates are significant at the ***(.01), **(.05), *(.10) level

In column (1), the results indicate that indicate that, when controlling for all other variables, salary has a positive, but diminishing effect on the number of dispositions. We also see that the dummy variables for year indicate that the number of dispositions increased from 2007 to 2010, using 2011 as the base year. In column (2), which adds legal experience to the model, we see that salary has a similar, though slightly smaller, effect on the number of dispositions. We also see that, when controlling for salary, for every additional year of legal experience, the number of decisions rises by 16.81, and the result is significant at the .01 level. This

result contradicts what we saw with the OLS model, which is perhaps an indication that there was some bias in the OLS model that the fixed effects model took into account; the possible sources of bias will be addressed later in the conclusion section of the fixed effects model. Also in column (2), we see similar effects for the dummies variables. Column (4), which adds tenure to the model, suggests a similar relationship between salary and the number of dispositions. The results of the dummy variables indicate that the number of dispositions increased in 2008 and 2010 in comparison to 2011. We also see, when controlling for salary, that for every additional year on tenure the number of dispositions increases by 32.91 annually, but the result is only significant at the .1 level.

Table 5 presents the fixed effects regression results for decisions. In column (1) we see, when holding all other variables constant, that salary has a positive, but diminishing effect on the number of decisions. The dummy variables indicate that the number of decisions increased in 2007 and 2008, but subsequently decreased from 2008 to 2011.

Table 5. Fixed effects Regression Results for Decisions

Variables	(1) Coefficient (Std. Error)	(2) Coefficient (Std. Error)	(3) Coefficient (Std. Error)	(4) Coefficient (Std. Error)	(5) Coefficient (Std. Error)
Female	(Omitted)	(Omitted)	(Omitted)	(Omitted)	(Omitted)
Salary	.06186***	.058842***	.03444	.06923***	.03776
	(.00407)	(.0057106)	(.0455)	(.01361)	(.0466)
Salary Squared	-.20912***	-.19652***	-.1225	-.2372***	-.13045
	(.01524)	(.02133)	(.1641)	(.0512)	(.168001)

Legal Experience	X	16.7171*** (5.05199)	X	X	-5.3954 (30.4378)
Tenure	X	X	X	30.43336** (14.1498)	X
Age	X	X	-65.8889 (201.107)	X	(Omitted)
Year 07	-81.806*** (14.6662)	(Omitted)	-272 (806.7243)	(Omitted)	(Omitted)
Year 08	-100.76*** (11.3871)	-46.7538*** (8.1006)	-228.1894 (610.145)	-71.6027*** (22.731)	-25.5482 (35.3002)
Year 09	-49.268*** (8.0005)	-20.289*** (7.8704)	-132.9775 (403.3974)	-41.6572** (21.23533)	-5.7959 (41.0583)
Year 10	-24.032*** (6.27963)	-10.0966 (7.8486)	-35.7002 (204.352)	-40.5627* (20.98489)	35.1871 (45.7222)
Constant	-4134.9*** (264.8642)	7.8486*** (-4518.146)	2698.557 (14536.51)	-4907.94*** (966.8351)	-2105.867 (4037.837)

Estimates are significant at the ***(.01), **(.05), *(.10) level

In column (2), which adds legal experience to the model, we see a similar, though slightly smaller, effect of salary on the number of decisions. The dummy variables indicate that the amount of decisions decreased in 2008 and 2009 in relation to 2011. Our estimates also imply that, when controlling for salary, every additional year of legal experience results in 16.72 more decisions, and the result is significant at the .01 level. As with the result of legal experience in the model for dispositions, this directly contradicts the results in the OLS model, suggesting some bias in the OLS model. In column (4), which introduces tenure to the model, the regression indicates a similar effect of salary on the number of decisions, although the effect is slightly larger than (2). The dummy variables show that decisions generally decreased from 2008 to 2011. It also indicates that, when controlling for salary, every additional year of tenure results in 30.43 more decisions, and the result is significant at the .05 level.

Table 6 presents the fixed effects regression results for award rate. In column (1), we see a negative, and diminishing effect of salary on award rate. The dummy variables in this regression show that award rates generally decreased from 2007 to 2011.

Table 6. Fixed Effects Regression Results for Award Rate

Variables	(1) Coefficient (Std. Error)	(2) Coefficient (Std. Error)	(3) Coefficient (Std. Error)	(4) Coefficient (Std. Error)	(5) Coefficient (Std. Error)
Female	(Omitted)	(Omitted)	(Omitted)	(Omitted)	(Omitted)
Salary	-.00003*** (2.95e-06)	-.00003*** (4.22e-06)	-.00001 (.00003)	-.00004*** (8.72e-06)	-.000013 (.00003)
Salary Squared	.00009*** (.00001)	.000118*** (.00001)	.00003 (.00001)	.0001*** (.0000328)	.00004 (.0001)
Legal Experience	X	-.02098*** (.00372)	X	X	-.02798 (.01878)
Tenure	X	X	X	-.022** (.0091)	X
Age	X	X	.02198 (.12233)	X	(Omitted)
Year 07	.07061*** (.0106)	(Omitted)	.18923 (.49072)	(Omitted)	(Omitted)
Year 08	.08193*** (.0083)	.03085*** (.00597)	.16472 (.3711)	.01887 (.0146)	.02392 (.02178)
Year 09	.07341*** (.0058)	.03542*** (.0058021)	.14192 (.2454)	.03207** (.01462)	.04359* (.0253)
Year 10	.04406*** (.00456)	.01904*** (.01904)	.0947 (.1243053)	.01935 (.01348)	.045 (.0282)
Constant	2.94927*** (.19223)	4.0467*** (.35504)	.03899 (8.8424)	3.63845*** (.6191)	2.8187 (2.492)

Estimates are significant at the ***(.01), **(.05), *(.10) level

In Column (2), which introduced legal experience to the model, we see a nearly identical effect of salary on award rate. The dummy variables in the regression show a general decrease in the award rates from 2008 to 2010. It also indicates that, when controlling for salary, every additional year of legal experience

results in a reduction of .02 in the award rate. This means that for every five-year increase in legal experience, the award rate drops by roughly 10 percent, which gives some validity to our expectation that legal experience is negatively correlated with award rate. In column (4), which introduces tenure, our coefficients estimate a similar effect of salary seen in (1) and (2). Moreover, when controlling for salary, the regression indicates that every additional year of tenure results in a .02 reduction in the award rate. In other words, a 5-year increase in tenure results in a roughly 10 percent reduction in the award rate, which like the results for legal experience, gives some validity to our expectation that additional years of tenure result in lower award rates.

Summary of Fixed Effects:

The fixed effects model presents a number of significant relationships. Firstly, we saw a general increase in the number of dispositions and decisions from 2008 to 2011, but a reduction in award rates from the same period. The ladder, as previously mentioned, suggests that perhaps the increased media and congressional attention given to the SSDI program caused judges to be more cautious in granting disability benefits

The regressions show that as legal experience increased, the number of dispositions and decisions increased, while the award rate decreased. The same result was seen with tenure in relation to dispositions, decisions, and award rate. The results also show that salary had a positive, but diminishing, effect on dispositions and decisions, but a negative, and diminishing, effect on award rates. It

is also important to note that we observed no significant effect of age on any of the dependent variables.

As previously mentioned, the results seen with the OLS directly contradict those seen with the fixed effects model. The OLS model shows that additional years of legal experience result in fewer dispositions and decisions, but an increase in award rate; the fixed effects model shows that additional years of legal experience, and tenure result in an increase in dispositions and decisions, but a reduction in award rate. As a result, it is likely that there is bias that distorted the results in the OLS model, but is taken into account by the fixed effects model. One possible source of bias is the theory that more lenient judges tend to stay on the bench longer, while tougher judges tend to leave the bench earlier. This is based on the assumption that more lenient judges will generally enjoy their job more than the latter, and thus stay on the bench longer. Another possible source of bias is the idea that more experienced judges are assigned easier cases. This could be due to the fact that more experienced judges have more discretion in determining that cases they will preside over or more experienced judges are simply assigned more straightforward cases. However, this study did not seek to investigate the manner in which cases are assigned to ALJs. Accordingly, it is difficult to know for certain whether these are actual sources of bias; such an investigation could be included in future studies of the topic. Nonetheless, we observe some source of bias distorting the results in the OLS model. As a result, we conclude that the results seen in the fixed effects model are more likely to reveal the true relationship between age, salary, legal experience, and tenure and dispositions, decisions, and award rates.

Since gender is omitted from the original fixed effects model, we include separate fixed effect regression models for males and females. We incorporate two separate regressions to see if the effects of the explanatory variables on dispositions, decisions, and award rate differ by gender. Table 7 presents the fixed effects regressions for dispositions for men. In column (1), the regression shows that salary has a positive, but diminishing, effect on the number of dispositions, holding all other factors constant. The dummy variables show that the number of dispositions for men decreased from 2007 to 2008, but subsequently increased from 2008 to 2011.

Table 7. Fixed Effects Regression Results for Dispositions (MEN)

Variables	(1) Coefficient (Std. Error)	(2) Coefficient (Std. Error)	(3) Coefficient (Std. Error)	(4) Coefficient (Std. Error)	(5) Coefficient (Std. Error)
Salary	.07496*** (.00632)	.07041*** (.0088863)	.006052 (.1012134)	.09043*** (.0214)	.0249 (.1097)
Salary Squared	-.2557*** (.0236)	-.23654*** (.03293)	-.0429 (.3545)	-.31611*** (.0797)	-.1011 (.3838)
Legal Experience	X	17.87643** (7.2968)	X	X	(Omitted)
Tenure	X	X	X	42.0241** (20.396)	X
Age	X	X	6.1004 (262.6655)	X	-11.02082 (49.77857)
Year 07	-95.673*** (21.114)	(Omitted)	26.4975 (1066.829)	(Omitted)	(Omitted)
Year 08	-97.863*** (16.298)	-38.2299*** (11.3232)	56.748 (810.1546)	-45.8049 (31.0919)	36.70353 (53.408)
Year 09	-38.512*** (11.231)	-3.02163 (11.3973)	104.7598 (532.9551)	-16.6125 (31.0064)	83.74339 (63.36854)
Year 10	-23.419*** (8.9445)	-15.2479 (11.585)	84.0163 (269.7242)	-50.8239 (30.96298)	84.14518 (74.83654)
Constant	-4958.94*** (413.4059)	-5323.48*** (748.2153)	129.3241 (19776.68)	-6372.61*** (1532.304)	-199.5948 (10436.47)

Estimates are significant at the ***(.01), **(.05), *(.10) level

Column (2), which introduces legal experience, reveals a nearly identical relationship between salary and the number of dispositions. It also indicates that every additional year of legal experience results in an increase of 17.88 dispositions annually for men. In column (4), which incorporates tenure, the regression indicates a similar effect of salary on dispositions as seen in (1) and (2).

Table 8 presents the fixed effect regression results for dispositions for women. In column (1), the regression shows a positive, but diminishing, effect of salary on the number of dispositions, holding all other factors constant. Further, the dummy variables reveal a drop in the number of dispositions for women from 2007 to 2008, but a rise from 2008 to 2011.

Table 8. Fixed Effect Regression Results for Dispositions (WOMEN)

Variables	(1) Coefficient (Std. Error)	(2) Coefficient (Std. Error)	(3) Coefficient (Std Error)	(4) Coefficient (Std. Error)	(5) Coefficient (Std. Error)
Salary	.06546*** (.0074)	.06065*** (.01048)	.03426 (.05002)	.05967** (.02321)	.03426 (.05002)
Salary Squared	-.2121*** (.0283)	-.19037*** (.039654)	-.1042 (.1883)	-.19117** (.08771)	-1.0419 (.18826)
Legal Experience	X	9.70239 (11.0511)	X	X	(Omitted)
Tenure	X	X	X	18.398 (27.36162)	X
Age	X	X	5.8328 (44.7079)	X	5.83284 (44.7079)
Year 07	-69.468** (33.7282)	(Omitted)	(Omitted)	(Omitted)	(Omitted)
Year 08	-118.213*** (26.61904)	-71.0767*** (19.304)	-36.0408 (61.8656)	-158.028*** (54.935)	-36.0408 (61.86587)
Year 09	-74.863*** (18.9461)	-51.0096*** (16.8407)	-102.9836 (62.1806)	-107.2718** (41.6693)	-102.9836 (62.1806)
Year 10	-45.9713***	-14.60639	-52.5281	15.3762	-52.52808

	(14.0218)	(15.7239)	(61.1401)	(38.572)	(61.1402)
Constant	-4582.10***	-4641.89***	-2658.38	-4281.64***	-2658.38
	(487.4297)	(869.8347)	(5474.895)	(1610.253)	(5474.895)

Estimates are significant at the ***(.01), **(.05), *(.10) level

Column (2), which introduced legal experience, reveals a similar relationship between salary and the number of dispositions as (1). The dummy variables show an increase in the number of dispositions from 2008 to 2010. Column (4), which incorporates tenure, again shows the same effect for salary, as well signifies an increase in the number of dispositions from 2008 to 2009.

Table 9 presents the fixed effects regression results for decisions for men. In column (1), we see a positive, but diminishing effect of salary on the number of decisions issued by men, holding all other factors constant. Furthermore, the dummy variables show an increase in the number of decisions from 2009 to 2010.

Table 9. Fixed Effects Regression Results for Decisions (MEN)

Variables	(1) Coefficient (Std. Error)	(2) Coefficient (Std. Error)	(3) Coefficient (Std. Error)	(4) Coefficient (Std. Error)	(5) Coefficient (Std. Error)
Salary	.06314***	.05795***	-.0322	.0709***	-.0155
	(.0052)	(.00736)	(.08295)	(.017922)	(.0900)
Salary Squared	-.21679***	-.19559***	.0978	-.2488***	.04536
	(.0195)	(.0272796)	(.2905)	(.0669)	(.3148)
Legal Experience	X	16.925***	X	X	(Omitted)
		(6.0433)			
Tenure	X	X	X	36.4306**	Tenure
				(17.1164)	
Age	X	X	-45.6004	X	-19.1583
			(216.0898)		(40.8346)

Year 07	-90.0526***	(Omitted)	-134.923	(Omitted)	(Omitted)
	(17.4532)		(874.3305)		
Year 08	-100.6071	-41.4764***	-111.1147	-57.4207**	-14.1901
	(13.4696)	(9.372)	(663.9706)	(26.09245)	(43.8119)
Year 09	-43.974***	-12.9113	-38.2519	-23.9821	19.1299
	(9.2829)	(9.4397)	(436.7888)	(26.0206)	(51.1625)
Year 10	-17.742**	-8.7265	23.43759	-40.4622	64.5974
	(7.393474)	(9.5951)	(221.0553)	(25.9842)	(61.3903)
Constant	-4136.15***	-4419.62***	6307.572	-4990.54***	(3039.281)
	(341.7208)	(619.701)	(16208.19)	(1285.913)	(8561.3)

Estimates are significant at the ***(.01), **(.05), *(.10) level

The regression in column (2), which introduces legal experience, also shows a positive, but diminishing effect, of salary of the number of decisions issued by men, although no significant conclusions can be drawn from the results for the dummy variables. The regression indicates that every additional year of legal experience for men, results in a 16.93 increase in the number of decisions issued, and the results are significant at the .1 level. In column (4), the regression, which includes tenure, shows roughly the same effect of salary on the number of decisions, but no significant conclusions can be drawn from the dummy variables in this regression. However, it indicates, when controlling for salary, that additional years of tenure for men result in an increase of 36.43 decisions issued annually, and is significant at the .05 level.

Table 10 presents the fixed effects regression results for decisions for women. In Column (1), it is seen that salary has a positive, but diminishing, effect of salary on the number of decisions issued by women, holding all other factors constant. The dummy variables indicate an increase in the number of dispositions from 2007 to 2008, but a decrease from 2008 to 2011.

Table 10. Fixed Effects Regression Results for Decisions (WOMEN)

Variables	(1) Coefficient (Std. Error)	(2) Coefficient (Std. Error)	(3) Coefficient (Std.Error)	(4) Coefficient (Std. Error)	(5) Coefficient (Std. Error)
Salary	.0558*** (.0063)	.0533*** (.0088)	.0257 (.044)	.0572*** (.02)	.0257 (.0434)
Salary Squared	-.1816*** (.0234)	-.1702*** (.0333)	-.0747 (.1654)	-.1882** (.0756)	-.0747 (.1654)
Legal Experience	X	12.3493 (9.2925)	X	X	(Omitted)
Tenure	X	X	X	20.9883 (23.5728)	X
Age	X	X	-.2108 (39.2822)	X	-.2018 (39.2822)
Year 07	-64.147** (28.5598)	(Omitted)	(Omitted)	(Omitted)	(Omitted)
Year 08	-109.202*** (22.54)	-65.4744*** (16.2324)	-23.892 (54.3579)	-138.097*** (47.3283)	-23.8919 (54.3579)
Year 09	-67.4714*** (16.043)	-43.6786*** (14.1608)	-88.4645 (54.6344)	-98.9916*** (35.8992)	-88.4645 (54.6343)
Year 10	-36.4703*** (11.873)	-7.0665 (13.2217)	-44.8836 (53.7203)	-17.586 (33.2306)	-44.8837 (53.7201)
Constant	-3891.763 (412.738)	-4130.98*** (731.412)	-1743.543 (4810.468)	-4075.83*** (1387.361)	-1743.543 (4810.468)

Estimates are significant at the ***(.01), **(.05), *(.10) level

In column (2), the regression, which includes legal experience, also shows a positive, but diminishing effect of salary on the number of decisions, but no significant effect of legal experience. It also signifies an increase in the number of decisions issued by women from 2008 to 2009. The regression in column (4), which includes tenure, reveals the similar results for salary and the dummy variables as the regression in (2), but no significant effect of tenure.

Table 11 presents the fixed effects regression results for award rates for men. In column (1), we see a negative, but diminishing, effect of salary on award rate. The dummies indicate an increase in award rates from 2007 to 2008, but a decrease from 2008 to 2011.

Table 11. Fixed Effects Regression Results for Award Rates (MEN)

Variables	(1) Coefficient (Std. Error)	(2) Coefficient (Std. Error)	(3) Coefficient (Std. Error)	(4) Coefficient (StdError)	(5) Coefficient (Std. Error)
Salary	-.00001*** (3.56e-06)	.-.00003*** (5.02e-06)	.00001 (.0005)	-.0004*** (.00001)	.00001 (.00006)
Salary Squared	.0001*** (.00001)	.0001*** (.00001)	-.00006 (.0002)	.0001*** (.00004)	-.00006 (.0002)
Legal Experience	X	-.0187*** (.0041)	X	X	(Omitted)
Tenure	X	X	X	-.0219** (.0106)	X
Age	X	X	.0139 (.1335)	X	-.0205 (.0256)
Year 07	.0635*** (.0118)	(Omitted)	.1273 (.5403)	(Omitted)	(Omitted)
Year 08	.0731*** (.009`)	.0254*** (.0064)	.1136 (.4103)	.0172 (.016)	.0187 (.0275)
Year 09	.0689*** (.0063)	.0339*** (.0065)	.1195 (.2699)	.0434*** (.0159)	.0515 (.0321)
Year 10	.0423*** (.005)	.0202*** (.0065)	.1012 (.1365)	.0193 (.0159)	.0696* (.0385)
Constant	2.8323*** (.2324)	3.934*** (.423)	-1.1094 (10.0154)	3.9467*** (.7828)	1.298 (5.3698)

Estimates are significant at the ***(.01), **(.05), *(.10) level

In column (2), which introduces legal experience, the coefficients again reveal a negative, but diminishing, effect of salary. We also observe an increase in award rates from 2008 to 2009, but a decrease from 2009 to 2011. The results indicate that every additional year of legal experience results in a decrease of .0187

in award rates annually. In column (3), we see the same effect of salary, as well as a

.0219 decrease in award rates for every additional year of tenure.

Table 12 presents the fixed effects regression results for award rates for

women. In column (1), the regression shows a negative, but diminishing, effect of

salary on award rates for women. We also see a general decrease in the award rates

from 2007 to 2011.

Table 12. Fixed Effects Regression Results for Award Rates (WOMEN)

Variables	(1) Coefficient (Std. Error)	(2) Coefficient (Std.Error)	(3) Coefficient (Std. Error)	(4) Coefficient (Std. Error)	(5) Coefficient (Std.Error)
Salary	-.00003***	-.0004***	-.00003	-.00002	-.00003
	(5.83e-06)	(8.64e-06)	(.00002)	(.00002)	(.00003)
Salary Squared	.0001***	.0001***	.0001	.00007	.0001
	(.00002)	(.00003)	(.0001)	(.00006)	(.0001)
Legal Experience	X	-.0277***	X	X	(Omitted)
		(.0091)			
Tenure	X	X	X	-.0215	X
				(.0198)	
Age	X	X	-.0339	X	-.03394
			(.0239)		(.0239)
Year 07	.0935***	(Omitted)	(Omitted)	(Omitted)	(Omitted)
	(.0263)				
Year 08	.1125***	.0513***	.0393	.026	.0393
	(.0208)	(.0159)	(.033)	(.0397)	(.0331)
Year 09	.0902***	.043***	.0314	.0007	.0314
	(.0147)	(.0139)	(.0332)	(.0303)	(.0332)
Year 10	.0509***	.0163	.0027	.0261	.0027
	(.0109)	(.0129)	(.0327)	(.0279)	(.0327)
Constant	3.1371***	4.3422***	5.0775***	2.5521**	5.0775*
	(.3786)	(.7175)	(2.9253)	(1.1692)	(2.9253)

Estimates are significant at the ***(.01), **(.05), *(.10) level

In column (2), which incorporates legal experience, we see a similar effect of

salary, as well as a decrease in award rates from 2008 to 2009. The results also

indicate that an additional year legal experience results in a reduction of .0277 in award rates annually, and is significant at the .01 level.

Summary of separate fixed effects rate models for men and women:

The separate fixed effects models for dispositions indicate a positive, but diminishing effect, of salary on the number of dispositions for males and female judges. In other words, higher paid judges, both male and female, hear more dispositions, but at a decreasing rate. In addition, they both show a decrease in the amount of dispositions from 2007 to 2008, and an increase in dispositions from 2008 to 2010. One notable difference between the separate models for dispositions is that additional years of legal experience for men result in an increase in the amount of dispositions annually, while the same was true for women but the result was insignificant.

The separate fixed effect regression models for decisions show a positive, but diminishing, effect of salary on the number of decisions for both men and women. This indicates that higher paid male and female judges issue more decisions, but at a decreasing rate. Moreover, both models show a general increase in the number of decisions issued from 2009 to 2011. However, the number of decisions dropped from 2007 to 2008 for women, while the results for the same time period were insignificant for men. The regressions in the fixed effects model for men reveal that additional years of legal experience and tenure result in more decisions, while the effect in the regressions from women are insignificant.

For both men and women, we see a negative, but diminishing, effect of salary on award rates. So, higher paid judges, males and female, are less generous but at a decreasing rate. Both models also indicate a general decrease in award rates from 2007 to 2011. Additionally, both models show a similar effect of legal experience on award rates; every additional year of legal experience results in lower award rates. However, the fixed effect model for males indicate that every additional year of tenure resulted in lower award rates, but the effect of tenure is insignificant for women.

In conclusion, we see the same effect of salary, for male and female judges, on dispositions, decision, and award rates. However, we observe differing results with other variables in the separate fixed effect models. In the models for men, the coefficients indicate that additional years of legal experience and tenure result in more dispositions and decisions, and a reduction in the award rate. In the model for women, we see that the effect of tenure on dispositions, decisions, and award rate are all insignificant. Similarly, the regressions for women indicate that the effect of legal experience on dispositions and decisions are insignificant, although it is significant for the effect on award rate, which parallel the effect seen in the model for male judges. As a result, the data seems to suggest that more experience male judges tend to hear more dispositions and decide more cases. This is perhaps an indication that female judges take more time to decide their cases. This study does not seek to provide an explanation for this phenomenon, but one potential explanation is that female judges either receive, or perceive to receive, more

scrutiny from other judges when deciding cases; thus, they take more time to ensure they reach the correct result; this may be a topic for future research into the subject.

Conclusion:

The purpose of this study was to examine the decision making process of Administrative Law Judges. In pursuit of this goal, we examined the effect of gender, salary, legal experience, age, and tenure on the number of decisions, dispositions, and award rates. The data, which span the years 2005-2011, were obtained from the SSA's Office of Disability and Adjudication Review (ODAR), along with Internet searches to obtain information on the personal attributes of the judges. We utilized linear regression, incorporating both ordinary least squares and fixed effects, to determine whether the explanatory variables have an effect on dispositions, decisions, and award rates. The fixed effect model revealed several significant relationships. First, we observed that higher paid judges tend to hear more dispositions and issue more decisions, but tended to be less generous in granting disability benefits. Second, we found that additional years of legal experience and tenure lead a judge to hear more cases and issue more decisions, but also makes a judge less generous in granting disability benefits. However, the fixed effects model did not allow us to draw conclusions on gender. As a result, we included separate fixed effects models for men and women to see if the effects of the explanatory variables on dispositions, decisions, and award rates differ by gender. Based on these models, we conclude that more experienced male judges tend to hear more dispositions and issue more decisions, although have similar award rates as females.

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