Rethinking Law School Tenure Standards

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We study the implications of stricter tenure standards in law schools, an environment in which 95 percent of all tenure track hires receive tenure. To do so, we construct a novel dataset of the articles and citation counts of 1,712 law professors who were granted tenure at top-100 law schools between 1970 and 2007. We first show that pre-tenure research records are highly predictive of future academic impact. We then simulate the effects of applying stricter tenure standards using predictions of law professors’ future academic impact at the time of their tenure decision. We find that increasing tenure denial rates to the same level as hard science departments—which would require increasing denial rates by 30 percentage points—could more than double the median post-tenure academic impact of the faculty that law schools initially tenure.

*JEL*: I23, J24, J44, M51, O31
1 Introduction

Tenure is a central feature of modern universities. This is likely due in part to the many advantages of tenure, including protecting faculty from political forces at odds with their research and advocacy; freeing faculty to pursue risky projects that are potentially groundbreaking; generating incentives for faculty to monitor university leadership; allowing faculty to make highly specialized human capital investments; and ensuring that faculty can hire strong colleagues without fear that they will be pushed out of their departments by newcomers. But tenure also commits a faculty spot to a scholar for decades, requiring a substantial commitment of resources and reducing opportunities to hire other scholars. And, by protecting faculty from dismissal, tenure decreases incentives to produce research.

Given these stakes, most academic departments only grant tenure to the most talented and productive scholars. For example, 65 percent of faculty in science and engineering departments receive tenure (Kaminski and Geisler, 2012), and 30 percent of faculty in top economics departments receive tenure from the institutions where they begin working (Heckman and Moktan, 2020). However, there is at least one university department where almost everyone gets tenure: law. By our estimates, at least 95 percent of tenure-track faculty hired at top 14 law schools between 2000 and 2012 received tenure.¹

In this article, we study the effect that applying stricter tenure standards would have on the academic impact of law schools’ tenured faculty. To do so, we constructed a unique dataset from two sources. First, we parsed information from the Association of American Law Schools’ annual list of law professors to identify faculty granted tenure at a top 100 law school between 1970 and 2007. These data allow us to observe the law school and year that professors first received tenure. Second, we scraped HeinOnline to obtain information about these law professors’ research records—the number of published articles, the placement of articles in top journals, and the citations the articles receive. These data allow us to observe law professors’ research records in the year of their tenure decisions, along with all subsequent articles and citations. In total, we have this information for a sample of 1,712 law professors.

Using these data, we first explore the extent to which law professors’ research records

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¹ We classify a law professor as having received tenure if they obtain tenure at the school where they were initially hired or at a law school no more than 5 spots lower in the law school rankings.
at the time of tenure decisions predict their future academic impact. Pre-tenure research records might not provide a strong signal of future impact because productivity might be unstable over professors’ careers and because of randomness in the way articles are published and cited. These general problems are exacerbated in the legal academy because tenure clocks in law schools are relatively short and because students make publication decisions for the journals in which law professors primarily publish. Despite these potential problems, we find that research records at the time of tenure are highly predictive of law professors’ future academic impact. This is true even at the bottom of the bottom of the pre-tenure distribution, which is the focus of tenure decisions. For instance, 79 percent of law professors in the bottom quartile of predicted post-tenure citations were below the median of actual post-tenure citations.

Next, we run simulations to assess the impact of stricter tenure standards. To do so, we generate predictions of future academic impact based on pre-tenure research records and rank law professors by their predicted future impact within defined tenure cohorts. We then impose counterfactual tenure denial rates that lead to vacant faculty positions and simulate filling these vacant positions with other faculty under various counterfactual scenarios that are intended to mimic the hiring practices that law schools might use to fill the additional vacancies. This allows us to estimate the benefits and costs of stricter tenure standards.

A main benefit of stricter tenure standards would stem from any increased academic impact of the faculty that the law school initially tenures. We assess these potential benefits by estimating the change in citations that would occur if law schools used the number of tenured positions they decided to dedicate to entry-level candidates more efficiently. The estimates suggest that increasing tenure standards by even 10 percentage points could meaningfully improve the academic impact of faculty occupying these positions. If law schools did not fill the vacancies and had a smaller tenure track faculty, we estimate that increasing the tenure denial rate by 10 percentage points would increase median citations by 19 percent. And, if law schools were to fill the vacancies by hiring a mixture of entry-level and lateral academics, increasing the denial rate by 10 percentage points could increase median citations by as much as 60 percent. If law schools increased denial rates by 30 percentage points (which would be similar to the denial rate that exists in hard science departments), the increase in median
citations could be more than 150 percent.

A main cost of stricter tenure standards is denying tenure to law professors who go on to have impressive post-tenure research records. We assess these potential costs by estimating the rate that law professors who are denied tenure in the simulations have greater academic impact than the faculty simulated to fill the vacant positions. We find evidence that the rate of mistakes would be modest. If the law schools filled vacancies by hiring a mixture of entry-level and lateral academics, around 5 percent law professors who are denied tenure in the simulations have greater academic impact than the faculty simulated to fill the vacant positions for tenure denial rates up to 30 percentage points.

We then assess whether the estimated benefits of stricter tenure standards in the simulations are driven primarily by differential denial rates by schools, teaching fields, or professor demographics. If applying a uniform tenure standard would result in unacceptable losses to a faculty’s diversity across any of these dimensions, then the counterfactuals would be unrealistic and the benefits we estimate could not plausibly be achieved. For instance, the simulations would not be realistic if they resulted from denying tenure to all tax law professors and filling the vacant positions with constitutional law professors. We find that the results are not driven overwhelmingly by denying law professors from the same law schools, teaching fields, or professor demographics. That said, we do find some differences in denial rates that suggest that tenure decisions based single-mindedly on publications and citation counts would not be optimal.

Finally, we run a series of dynamic simulations to test the robustness of the results to possible equilibrium effects of stricter tenure standards. This is important because the main estimates are from static simulations that assume that increasing tenure standards would not affect law professors’ pre-tenure effort or the pool of candidates trying to become law professors. However, it is likely that stricter tenure standards would cause faculty to change their behavior in a number of ways. Although some possible behavioral responses could lead us to understate the true benefits of stricter tenure standards of academic impact, other behavioral responses could lead us to overstate the true benefits. To investigate how behavioral responses could impact the results, we run simulations to account for the possibility that law professors could increase their pre-tenure efforts in a way that weakens the signal value of their
research records, the possibility that the pool of strong entry-level candidates could deplete from expanded entry-level hiring, and the possibility that prospective faculty members could be scared away from the profession. Even under fairly conservative assumptions, we find that dynamic effects on effort and the candidate pool are unlikely to be enough to counterbalance the gains to median faculty impact from stricter tenure standards.

This article contributes to the labor economics literature on academic hiring, publication, and tenure decisions (e.g., McPherson and Schapiro, 1999; Bertsimas et al., 2015; Liner and Sewell, 2009; Akerlof, 2018; Heckman and Moktan, 2020; Anauati et al., 2020). The results demonstrate the potential value of using data to inform personnel decisions in law schools. By doing so, they suggest that law schools should reconsider the way tenure decisions are made and the standards used in those decisions. However, we acknowledge that research records are not the only criteria for making tenure decisions, and law schools should endeavor to hire and retain faculty who will also be excellent teachers, mentors, and colleagues. Moreover, applying stricter uniform tenure standard based on these research measures may result in unacceptable losses to a faculty’s diversity, which would caution against applying a rigid formula based on predicted impact when making tenure decisions.

This article proceeds as follows. Section 2 describes the data and investigates the extent to which information available at the time of tenure decisions is predictive of citations to post-tenure articles. Section 3 explains the counterfactual simulations and reports the results. Section 4 investigates the impact of stricter tenure standards by schools, teaching fields, and professor demographics. Section 5 investigates how possible equilibrium effects of stricter tenure standards affect the results. Section 6 concludes.

2 The Predictive Power of Law Professors’ Research Records

Institutional Setting. Tenure candidates are typically evaluated based on research, teaching, and service. Although the relative weight placed on each of these criteria varies across schools and departments, the primary criteria in most departments at research universities is research. To evaluate a candidate’s research, departments typically rely on a combination of subjective evaluations and objective metrics. The subjective evaluations are assessments of a candidate’s research that are solicited from relevant internal and external experts. The objective metrics used to measure scholars’ research records typically include the number of
published articles, the placement of articles in top journals, and the citations the articles
receive. The subjective evaluations and objective metrics are then used to assess whether a
candidate has produced sufficient quality and quantity of research to have met the bar for
tenure. This usually involves a prediction about the candidate’s future academic impact. Al-
though citations to academic publications are an imperfect proxy for academic impact, they
are the standard way to measure impact in the academy.2

Data. Testing whether pre-tenure objective metrics can be used to improve tenure decisions
requires data on the identities of law professors and their pre- and post-tenure research records.
For data on the identities of law professors, we collected the law school and year in which law
professors were first granted tenure from information available in the Association of American
Law Schools’ annual lists of law professors. We parsed the lists to generate a panel of law
professors at top 100 law schools since 1970. We then exclude non-tenure track faculty and
law professors who were granted tenure before 1970 or after 2007.3 For the remaining sample,
we coded professors as receiving tenure in the year in which they are first listed with a title
with tenure at the law school, which is usually but not always “professor of law.” The sample
contains 3,931 law professors. The number of tenures granted at the top 100 law schools is
fairly constant over time: 1,056 in the 1970s, 1,117 in the 1980s, 1,082 in the 1990s, and 676
from 2000 to 2007.

For data on law professors’ research records, we collected information by scraping
HeinOnline in 2018.4 HeinOnline has unique webpages for authors that list their publications
available in the database. We first scraped these webpages and obtained information about
each publication, including the journal and year of publication. Each publication has a unique
webpage that lists every academic article in the database that has cited it. We then scraped
these webpages and obtained information about each of the citations, including the year that

2 For research using citations to measure academic impact in the academy generally, see, e.g., Hamermesh
(2018); Tahamtan et al. (2016); McCabe and Snyder (2015); Mingers and Xu (2010); Gerrity and McKenzie
(1978). For research using citations to measure academic impact in the legal academy specifically, see, e.g.,
Chilton et al. (2020); Heald and Sichelman (2019); Yoon (2016); Sisk et al. (2015).
3 We did not include law professors that were granted tenure after 2007 in the sample because we wanted
all law professors to have least 10 years of post-tenure data on articles, placement, and citations.
4 HeinOnline is a searchable internet database with information primarily on law review publications. It
does not include information on many non-law journals or academic books, and it thus may not fully capture
the research records of some law professors. However, it is still one of the most comprehensive databases of
law review publications. HeinOnline has also been used by other scholars to measure law professors’ research
records and to produce academic rankings of law schools (e.g., Heald and Sichelman, 2019).
the citing article was published. As a measure of highly placed articles, we coded articles published in the top 20 law reviews according to the 2017 Washington and Lee Law Review Ranking.⁵

In total, we were able to construct HeinOnline research records for 1,712 out of 3,931 law professors in the AALS data.⁶ These professors have published 29,694 total articles, 5,848 of those articles are published in top 20 law reviews, and together the total set of articles have received 1,070,092 citations. Because some law professors have had tenure for more years than other law professors (e.g., law professors who received tenure in 1970 have had more years to accumulate citations than law professors who received tenure in 2007), using more than 10 years of post-tenure citations would not allow for direct comparisons across all tenure cohorts. We thus use citations to post-tenure articles within 10 years after tenure as the primary outcome measure to avoid possible length-biased sampling.

Descriptive Statistics. Figure 1 reports the mean number of articles, articles published in top 20 law reviews, and citations for each tenure cohort over time, separately for before tenure and the 10 years after tenure. Both the pre- and post-tenure panels show a clear upward trend in each of the measures over time.

To investigate how citations of law professors compare at different law schools, Figure 2 reports the distributions of the within-tenure cohort percentile of law professor lifetime citations at three groups of law schools.⁷ The figure provides strong evidence that there is sorting of law professors based on lifetime citations by law school rank. However, it also shows that there are meaningful numbers of law professors at all law schools who occupy both ends of the distribution. At one extreme, 3 percent of law professors at top 20 schools are in the bottom 10 percent of the distribution. At the other extreme, 4 percent of law professors at

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⁵ In some academic fields, there are well-defined lists of what are considered to be the top journals (in economics, for example, see Hamermesh, 2018). In law, however, there is not a well-accepted list of the top journals. Any discrete definition of top law reviews is thus less than ideal. We focus on top 20 law reviews, but we find consistent results using different definitions of top law reviews.

⁶ Any measurement error in matching a law professor to their research record raises a serious concern for our research. This is because increasing the tenure denial rate focuses on the bottom of the distribution, and mismatching law professors would primarily affect the bottom of the distribution. We thus took extensive efforts to verify the data. Specifically, research assistants manually search for the law professors in the sample to confirm that each match was a true match. If a professor’s CV or website could not be located, that professor was dropped from the sample. We repeated this process twice and only retained law professors in which both sets of searches identified the same professor’s articles, tenure school, and tenure year.

⁷ Figure 2 uses lifetime citations to provide the most complete picture of within-cohort comparisons, but the patterns are similar using citations to post-tenure articles published within 10 years after tenure.
law schools ranked 51 to 100 are in the top 10 percent of the distribution.

**Analysis.** We investigate the extent to which law professors’ pre-tenure research records predict their future academic impact by estimating Equation 1.

\[
\ln(\text{impact}_i) = \alpha + \beta \text{articles}_i + \delta \text{placements}_i + \gamma \ln(\text{citations}_i) + \phi_t + \epsilon_i \tag{1}
\]

where \(\text{impact}_i\) is author \(i\)’s citations to post-tenure articles, \(\text{articles}_i\) is the number of articles published before tenure, \(\text{placements}_i\) is the number of top 20 law review articles published before tenure, \(\text{citations}_i\) is citations before tenure, and \(\phi_t\) are tenure cohort fixed effects.\(^8\)

Using citations to articles published post-tenure is a conservative approach to measuring post-tenure academic impact because it breaks any mechanical relationship between law professors’ pre-tenure research records and post-tenure academic impact.

Table 1 reports the results for citations to post-tenure articles within 5, 10, and 20 years after tenure, as well as the full set of available citations through 2018. The results in Table 1 suggest that the three measures of pre-tenure research records—articles, placements, and citations—all have independent predictive power explaining citations to post-tenure articles. These results specifically suggest that roughly one fourth of the variation in citations to post-tenure articles can be explained by pre-tenure research records.\(^9\)

For instance, the estimates for the main outcome in Column 2 indicate that law professors with 1 more pre-tenure publication, 1 more pre-tenure publication in a top 20 law review, and 1 percent more pre-tenure citations have, respectively, an average of 7 percent, 30 percent, and 0.31 percent more citations to post-tenure articles within 10 years after tenure.

Although Table 1 shows that pre-tenure research records predict future academic impact on average, increasing tenure standards primarily involves more stringently evaluating professors with the weakest research records. Therefore, the estimates would only be valuable if they make it possible to reliably distinguishes between the professors at the bottom of the distribution. We thus assess the relative positions of law professors in the distribution of predicted future impact and the distribution of actual future impact. To do so, we form leave-out predictions for each law professor where we estimate the regression in Equation 1 for

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\(^8\) To account for zeros, we add 1 to the citations before taking the natural log.

\(^9\) Binscatters provide evidence that the functional forms used in Equation 1 are appropriate.
citations to post-tenure articles in the 10 years after tenure while leaving the law professor in question out of the regression and then collect the fitted values. Using this approach, Figure 3 maps the relationship between law professors’ predicted citation by quartile and their actual citation by quartile in a Sankey Diagram. The results show that 53 percent of professors in the bottom quartile of predicted citations were also in the bottom quartile of actual citations and that 79 percent of law professors in the bottom quartile of predicted citations have actual citations below the median of their tenure cohort. These results provide evidence that pre-tenure research records can be used to inform tenure decisions.

3 The Benefits and Costs of Stricter Tenure Standards

Having documented that pre-tenure research records can predict post-tenure academic impact, we turn to using counterfactual microsimulations to quantify the potential benefits and costs of stricter tenure standards. The basic intuition of the simulations is to rank law professors by their predicted future impact using only pre-tenure research records, impose a rule to deny tenure to some percent of law professors, simulate counterfactuals for how law schools would fill the vacant faculty positions, and estimate the benefits and costs of these increased tenure standards by comparing the post-tenure research records of the actual law school faculties to the counterfactual law school faculties. In this section, we use static simulations that assume that stricter tenure standards do not produce behavioral responses, but in Section 5 we relax the static nature of the simulations to test the sensitivity of the estimates to several equilibrium effects.

Ranking Tenure Candidates. The simulations require ranking tenure candidates relative to a relevant peer group. To develop estimates of the distribution of academic impact of law professors against which we rank individual faculty members, we employ a method from Lei

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10 Even in situations where policy changes are likely to produce behavioral responses, static microsimulations are a standard method that is used as a starting point to assess the impact of policy changes. This is because static simulations offer the practical advantage of producing transparent estimates without relying on often difficult to verify assumptions about how individuals will respond to policy changes. For instance, academics have used static microsimulations to assess the stabilizing effect of the federal income tax system over the business cycle (e.g., Auerbach and Feenberg, 2000; Saez, 2004; Kingi and Rozema, 2017) and the distributional effects of tax expenditures (e.g., Cole et al., 2011; Hemel and Rozema, 2017). For the same reasons, government agencies around the world use static microsimulations to estimate the effects of tax and transfer policies (Stevenson et al., 2017).
The general framework proceeds in four steps. First, we estimate a prediction of the future academic impact for each professor based on their pre-tenure research record. To do so, we form leave-out predictions of future academic impact $\hat{y}_i$ for each law professor by estimating a regression in Equation 1 for each law professor while leaving the law professor in question out of the regression. These predictions are those reported in the Sankey Diagram above in Figure 3. The estimate $\hat{y}_i$ indicates the predicted number of citations from post-tenure articles for professor $i$ based on their pre-tenure research record.

Second, we estimate how each professor’s predicted academic impact compares to their peers. To do so, we regress $\hat{y}_i$ on law school rank and tenure year, collect the fitted values, $\hat{y}_i$, and calculate the residuals, $R_i = \hat{y}_i - \hat{y}_i$. The fitted values provide an estimate of the expected future impact for each tenure year and law school rank, and the residuals provide an estimate of the functional form of where a law professor fits within the distribution of predicted impact in their relevant peer group.

Third, we adjust the measures to account for differences in the distributions across law schools and tenure year. For example, if there was more variation in predicted impact between law professors tenured in 2000 than law professors tenured in 1970, we would want a final statistic that indicates how much of an outlier professors tenured in 2000 are within the 2000 distribution compared to how much of an outlier professors tenured in 1970 are within the 1970 distribution. To be able to compare professors in the bottom of the distribution across law school ranks and tenure years, we regress the absolute value of $R_i$ on tenure year and law school rank and recover fitted values, $\hat{R}_i$. These fitted values provide an estimate for the expected variance in predicted impact by tenure year and law school rank. We then calculate a final statistic of predicted impact that accounts for differences in the variance of

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11 Another option is to define set tenure cohorts (e.g., group professors in buckets based on tenure year and law school rank). There are two limitations to this approach. First, true differences in law professors at law schools that are grouped into the same bin would generate mechanical variance in the hypothetical tenure denial rates across law schools. For example, if the top 10 law schools form the relevant peer group, the professors at the 10th ranked law school may be denied tenure at a higher rate than professors at the 1st ranked law school because of differences in the average impact of law professors across the law schools. Second, the size of the cohorts can vary widely, which could be problematic for low tenure denial rates. For example, if we group professors into 5-year tenure bins and group law school companion schools in 10-ranking bins, the 80 cohorts of law professors would range from as small as 4 to as large as 44.

12 We find consistent results if the predictions are formed leaving out all the candidates from a given year.
predicted impact between different tenure and law school rank cohorts $y_i^* = R_i \times \hat{R}_i + \hat{y}_i$, where the estimate $\hat{y}_i$ is added back to center the expected academic impact for each tenure year and law school rank. This statistic accounts for the fact that the variance in predicted academic impact may not be constant over time.

Finally, for each law professor, we compare their predicted future citations to the distribution of an individualized peer group. To do so, we use the statistic $y_i^*$ to form a distribution of predicted impact describing the range of normal predicted impact for every law professor based on their tenure year and law school rank. We calculate the percentile of each law professor’s predicted citations $\hat{y}_i$ within the distribution of $y_i^*$ of law professors that tenure committees would likely turn to as a relevant peer group. In particular, we base the peer group on tenure year and law school rank. For tenure year, we use 5 years before because the research record of those law professors will be observable to law schools, and we use 2 years after because law schools can look to candidates at other law schools who will be going up for tenure soon.\(^\text{13}\)

**Counterfactuals.** After forming a distribution of tenure candidates’ predicted impact using this approach, we deny tenure to candidates at different rates based on their percentile in these distributions. Because we start with a sample of law professors who actually get tenure, which excludes entry level law professors who do not receive tenure, the increases in tenure denial rates in the simulations are interpreted as percentage point increases rather than percent increases.\(^\text{14}\) We then simulate four kinds of counterfactuals that reflect the strategies that law schools could use after increasing the rate of tenure denials.

\(^{13}\) We experimented with different definitions of peer groups and the results are not highly sensitive to the particular definition used.

\(^{14}\) It is also not possible to interpret our results as percent increases because the exact tenure denial rate at all times and schools in our sample is unknown. Although the fact that schools have a low tenure denial rates is a stylized fact that is widely believed and repeated by law professors (see, e.g., *LeiterReports*, 2005; *PrawfsBlawg*, 2014), we are only aware of a few attempts to estimate the exact denial rate. Notably, we estimate that the tenure denial rate of law professors at top 14 schools between 2000 and 2012 is 5 percent. Additionally, *Yoon* (2016) studies entry-level law professors in all law schools who were hired between 1993 through 2002 and reports that a “small fraction of pretenured faculty—5 percent in the data—[do] not receive tenure and subsequently leave legal academia.” It is reassuring that this estimate is similar to ours, but it is not directly comparable to our estimate because it is not the tenure rate but rather the rate at which entry-level legal academics exit the legal academy. It is also worth noting that the high tenure rate might be particularly surprising given that only one in seven entry level candidates obtain a position each year (George and Yoon, 2014), and that commentators have claimed that problems in the entry level academic market in law schools lead to highly inefficient outcomes (Redding, 2003).
1. Smaller Tenured Faculties. Law schools could simply not fill the vacant positions. For this counterfactual, we simulate law schools having a smaller percentage of tenured faculty relative to nontenured faculty by not filling the vacant positions with another simulated faculty member.

2. Lateral Hiring. Law schools could fill the vacant positions entirely with lateral candidates who are tenured at other law schools. For this counterfactual, we simulate law schools hiring actual law professors from lower ranked law schools. Schools could engage in a range of lateral hiring strategies, so we use two approaches to generate a range of possible outcomes from expanded lateral recruitment.

First, we simulate filling a vacant position with a senior lateral candidate. For these simulations, we assume that law schools could hire the best person at a school ranked 20 schools or more below them based on their actual post-tenure research record 10 years after they received tenure (the same time period which we assess post-tenure citations). This means there is no uncertainty in the lateral hire’s mid-career impact that serves as the outcome. Although some senior lateral candidates may be less productive after their first 10 years after tenure, this hiring strategy would make sense for schools trying to maximizing their placement in rankings that incorporate lifetime citations (e.g., Heald and Sichelman, 2019).

Second, we simulate filling the vacant positions with a junior lateral candidate. For these simulations, we assume schools could hire the person with the highest predicted impact at the time of tenure at schools ranked 20 spots or more below them.

There are several things worth noting about how we simulate lateral hiring. For both approaches, we randomly assign the top lower-ranked professors across the law schools that are filling vacant positions. Additionally, we assume that all lateral candidates are hired with tenure. Finally, because we draw laterals from schools ranked at least 20 places below a given school, we are unable to estimate the impact of laterals for the lowest-ranked schools in the sample. The simulations therefore focus on the top 50 law schools.

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15 In theory, this assumption is reasonable because, on average, higher ranked law schools are likely to offer higher compensation and better professional opportunities. In practice, this assumption may overstate the fluidity of the lateral market because not all professors are willing to move.

16 Even though schools do hire some pre-tenure laterals, we believe that this is a reasonable assumption because schools are unlikely to recruit many pre-tenure law professors below the tenure standard.

17 The assumption that schools are able to laterally recruit top candidates from schools ranked at least 20 spots below them is also likely more reasonable for the top ranked law schools.
3. Entry-Level Hiring. Law schools could fill the vacant positions with entry-level candidates. For this counterfactual, we simulate law schools re-sampling from an assumed distribution of entry-level candidates. We assume that the current pool of hired candidates would be representative of an expanded pool of entry-level hires. This may be reasonable given problems with law school hiring (Redding, 2003), but we relax this assumption below in Section 5 to explore how the results would be impacted if the academic strength of candidates available would change in a world with expanded entry-level hiring. For the static simulations, however, we use two approaches that generate a range of outcomes if schools hired more entry-level candidates.

First, we simulate filling the vacant positions with a random draw from the set of law professors who are predicted to meet the tenure standard. This means it is possible to eventually end up with someone predicted to barely meet the tenure standard or an academic superstar. For instance, when we simulate a 10 percentage point increase in denial rates, the vacant positions are filled by a random entry-level candidate from the relevant peer group between the 11th and 100th percentiles.\textsuperscript{18} The primary assumption required for these simulations is that law schools would be able to recruit similar entry-level candidates if they engaged in additional hiring. We believe this assumption is plausible because we focus on the top 50 law schools for the simulations,\textsuperscript{19} where even a 30 percentage point increase in tenure denials would only require those schools to hire a few dozen additional candidates per year. And as Figure 2 shows, there are many law professors at schools ranked 51-100 that the top 50 law schools could potentially hire that would have higher citations than their median faculty member.

Second, we simulate filling the vacant positions with the median professor from the set of professors who are predicted to meet the tenure standard.\textsuperscript{20} One concern with the random draw approach is that even if schools ranked 51-100 hire candidates that turn into star academics, the law schools ranked in the top 50 that the simulations focus on may not be able

\textsuperscript{18} Simulating the random draws and then taking the average of the random draws converges on the mean of the distribution that the random draw pulls from.

\textsuperscript{19} Comparing the entry-level counterfactuals to the lateral counterfactuals requires assessing the same set of law schools. We therefore estimate the benefits and costs of stricter tenure standards for the top 50 law schools.

\textsuperscript{20} In particular, we randomly draw a professor between the 45th and 55th percentile from the set of professors who are predicted to meet the tenure standard.
to identify them when they are on the entry-level market. By filling the vacant positions with the median draw instead of a random draw, this counterfactual illustrates what would occur if schools were not able to identify the professors that will be on the right-tail of academic impact in a world of expanded entry-level hiring.

Both of the entry-level approaches assume the faculty simulated to fill the vacant positions are held to the same standard as the law professors initially up for tenure. Therefore, any initial denial rate leads to a higher equilibrium denial rate. For example, if there are 100 faculty and a 10 percentage point increase in the denial rate, then 10 professors would be denied and 10 new faculty would be hired; of the 10 new hires, 1 professor would be denied and another hired to fill the position; and so on. Given an initial denial rate of X, this means that the equilibrium denial rate is X(1-X). We scale the tenure denial rate when we report the results to account for this fact.

4. Maximize Impact Hiring. Law schools could use a combination of lateral and entry-level hiring to try to maximize the academic impact of faculty filling the vacant positions. For this counterfactual, we take the greater of either the first lateral hiring scenario described above or the first entry-level hiring scenario described above, and we account for a higher equilibrium denial rate resulting from the new entry-level hires being denied tenure by scaling the portion of the denial rate for the share of positions filled by the entry-level hires before we report the results. This estimate can be seen as an upper bound on the static estimate of increased academic impact that could be achieved by increasing tenure standards.

The Benefits of Stricter Tenure Standards. After conducting these counterfactual microsimulations, we assess the potential benefits of stricter tenure standards at the law school level by comparing median citations of the set of counterfactual professors to median citations of the set of professors actually granted tenure by a given law school. This means that we are not calculating the potential increase in academic impact for a given law school in a specific year, and we are not calculating the potential changes to the academic impact of a law school overall. Instead, the results should be interpreted as the potential increase to the median academic impact of the set of faculty tenured at a given law school. In other words, the research question is what could have been achieved if law schools had used the number of tenured positions they dedicated to entry-level candidates more efficiently.
Figure 4 reports these results. The x-axis is the increase in the tenure denial rates from 5 to 30 percentage points, and the y-axis is the percent increase in the median citations to post-tenure articles of the faculty initially granted tenure by a given law school.\textsuperscript{21} For the \textit{Smaller Tenured Faculties} counterfactual, we find that median citations would increase 19 percent if tenure denial rates increased by 10 percentage points, 37 percent if tenure denial rates increased by 20 percentage points, and 52 percent if tenure denial rates increased by 30 percentage points. Although law schools may be likely to hire new law professors to fill the vacant positions instead of strictly following this strategy, the smaller faculties counterfactual also makes it possible to decompose the benefits of the other counterfactuals that fill vacant positions. This is because there are two main ways that stricter tenure standards could improve a law school’s academic impact: one way is removing unproductive faculty and the other way is bringing in new professors who have higher impact than the faculty who actually met the stricter tenure standards. The smaller faculty counterfactual thus represents the extent to which the overall benefits in the other counterfactuals are driven by the removal of unproductive faculty. If the estimated benefits for the smaller tenured faculty counterfactual are above that of the other counterfactuals, this would mean that more of the faculty simulated to fill the vacant positions have citations below the median of the original faculty who met the stricter tenure standards.

For the \textit{Lateral Hiring} and \textit{Entry-Level Hiring} counterfactuals, we find that the median citations of the faculty that the law school initially tenures would increase more than the \textit{Smaller Tenured Faculties} counterfactual at every denial rate we simulate, suggesting that law schools would be better off filling vacant positions with lateral candidates or entry-level candidates than keeping their faculties smaller. Additionally, we also find that the upper end of the estimates for the \textit{Entry-Level Hiring} counterfactual are notably lower than the upper end of the \textit{Lateral Hiring} counterfactual. This suggests that the best senior scholars from schools ranked 20 spots below a given law school typically have more citations than the expected entry-level candidate who meets the tenure standard.

Finally, for the \textit{Maximize Impact Hiring} counterfactual, we find that median cita-

\textsuperscript{21} We find qualitatively similar results using alternative statistics for the increase in law school’s academic impact, including the percentage increase in each law school’s 25th percentile citations, 75th percentile citations, mean citations, and cumulative citations.
tions would increase by 60 percent if tenure denial rates increased by 10 percentage points, 111 percent if tenure denial rates increased by 20 percentage points, and 160 percent if tenure denial rates increased by 30 percentage points. As explained above, this counterfactual allows for hiring both lateral and entry-level candidates. To understand the strategies that law schools are simulated to take for this counterfactual, Figure 5 reports the breakdown of how positions are filled between lateral and entry-level candidates for the results in Figure 4. For simulated increases in tenure denial rates below 15 percentage points, the share of laterals hired for this counterfactual is around 75 percent. As the tenure denial rates approach 30 percentage points, the share of laterals converges on 50 percent. These results suggest that small increases in denial rates should primarily be filled with lateral candidates. These results also suggest that, because the pool of exceptional lateral candidates can be exhausted, the share of vacant positions filled by entry-level hiring should increase as the tenure denial rate increases. Taken together, the results in Figure 4 and 5 suggest that, if law schools were to increase tenure standards, on average a mixed-strategy that includes entry-level and lateral hiring would likely be the best way for law schools to increase their academic impact.

The Costs of Stricter Tenure Standards. To assess the potential costs of stricter tenure standards, we estimate the rate that law professors who are simulated to be denied tenure go on to have greater academic impact than the faculty simulated to fill the vacant positions. For the Lateral Hiring counterfactual, the rates are increasing as the denial rate increases, and they range between roughly 5 and 30 percent for increases in the tenure denial rate of at least 10 percentage points. For the Entry-Level Hiring counterfactual, the rates range between roughly 10 and 15 percent for increases in the tenure denial rate of at least 10 percentage points. But unlike with lateral hiring, the costs of entry-level hiring do not increase as tenure denials increase. This is because the simulations assume that simulated entry-level candidates are pulled from the same distribution regardless of the tenure denial.

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22 It is worth noting that there are a number of possible ways to assess possible errors of this type. For instance, instead of comparing law professors denied tenure to the faculty simulated to fill the vacant positions, we could compare professors denied tenure to other professors who were granted tenure at the same law school. The reason we choose to compare law professors simulated to be denied tenure to the faculty simulated to fill the vacant positions is that we believe it most closely resembles the decisions that law schools realistically face: either grant tenure to a given candidate or deny tenure and hire again from the entry-level or lateral pool.

23 This exercise is not possible for the Smaller Tenured Faculties counterfactual because there is no faculty member simulated to fill the position against whom to compare the denied candidate.
rate (we relax this assumption in Section 5). For the Maximize Impact Hiring counterfactual, the rate is always less than 10 percent and the rate is around 5 percent for increases in the tenure denial rate of at least 10 percentage points.

4 Differential Impacts of Uniformly Increasing Tenure Standards

The simulations apply stricter tenure standards solely based on predictions of post-tenure impact using pre-tenure research records. These simulations are blind to the share of law professors denied tenure across law schools, teaching fields, and professor demographics. However, if the results are being driven by overwhelmingly denying tenure to particular groups of law professors along any of these three dimensions, the benefits of stricter tenure standards reported in Section 3 would likely be overstated because the counterfactuals would result in unacceptable losses to faculty diversity and therefore be unrealistic.

Figure 7 investigates whether applying different uniform tenure denial rates has differential impacts by law school, teaching field, or professor demographics. Each panel reports the increased tenure denial rates of different groups of law professors for a simulated market-wide increases in the denial rate of 10, 20, and 30 percentage points. Panel A reports the results across law schools. We find that there would be some large differences in the rates at which various law schools would deny tenure under stricter standards. Notably, the top decile of law schools would deny tenure at very low rates and the bottom decile would deny tenure to more than twice the marketwide rate. For instance, if marketwide denial rates increase by 10 percentage points, the law schools with the lowest decile of denial rates would not deny tenure to any additional faculty and the law schools with the highest decile of denial rates would deny tenure to roughly 31 percentage points more of their faculty. Across the range of marketwide denial rates we simulate, however, most law schools are within 10 percentage points of the marketwise denial rate. For instance, if marketwide denial rates increase by 10 percentage points, 51 percent of law schools would have a denial rate between 5 and 15 percentage points, and 92 percent of law schools would have a denial rate between 0 and 20 percentage points.

Panel B reports the results by teaching field. For this analysis, we match the sample to the “table of law teachers by subject” in the 2012 AALS, which contains the teaching areas
of professors. Doing so decreases the sample to 1,263 professors for a few reasons. First, many law professors in the sample had retired as of 2012. Second, we only include law professors who are listed as teaching at least one subject, and not all law professors taught at least one subject in 2012. The results in Panel B reveal that uniform tenure standards would produce similar tenure denial rates for most teaching fields. For instance, if marketwide denial rates increase by 10 percentage points, 45 percent of fields would have an increase in denial rates between 8 and 12 percentage points. However, there are some notable differences in denial rates between fields, with law professors teaching tax law having the highest denial rates and law professors teaching constitutional law having the lowest denial rates. For instance, if marketwide denial rates increase by 10 percentage points, we find that 22 percentage points more law professors teaching tax law would be denied tenure and 7 percentage points more law professors teaching and constitutional law would be denied tenure.

Panel C reports the results by professor demographics. For minority status, we use the 2012 AALS list of minority academics, which again restricts the sample to the 1,263 academics we were able to match to the 2012 AALS list. For sex, we use the same restricted sample. Women comprise 26 percent of law professors in this sample and underrepresented minorities comprise 11 percent. The results in Panel C reveal that uniform tenure standards would result in some differences in actual denial rates between law professor based on their demographics. For instance, if marketwide denial rates increase by 10 percentage points, we find that 8 percentage points more men would be denied tenure and 15 percentage points more women would be denied tenure. Moreover, if marketwide denial rates increase by 10 percentage points, we find that 9 percentage points more law professors not on the AALS minority list would be denied tenure and 19 percentage points more law professors on the AALS minority list would be denied tenure.

Given that we find differences in tenure denial rates by teaching fields and de-

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24 We group teaching subjects into coarser fields following Bonica et al. (2018).
25 Barnes and Mertz (2012) raises the possibility that higher tenure standards could have differential impacts across groups of law professors, including groups that are underrepresented in the academy. Merritt (2000) examines sex and race differences in academic impact as measured by citations of 815 professors who “began tenure-track positions at accredited U.S. law schools between 1986 and 1991,” and finds that white men have more citations than women and minorities. However, the author interprets the citations gap as modest, and the author also finds some evidence that the citation gap is largely explained by “differences in educational background, prestige of the institution at which a professor teaches, teaching assignments, and similar factors.”
mographics, we next assess how the estimated benefits to academic impact would change if tenure denial rates were held constant for law professors based on teaching fields, sex, and underrepresented minority status. To assess how the results would change if tenure standards were applied separately by teaching fields, we need an approach that addresses the fact that professors have multiple teaching areas and the impracticality of defining cohorts by field as well as tenure year and school rank. We therefore regress the statistic to rank law professor on field fixed effects and obtain residuals. These residuals can be interpreted as predictions that account for differences among fields.\textsuperscript{26} We then simulate the benefits of stricter tenure standards using these predictions. To assess how the results would change if tenure standards were applied separately by professor demographics, we hold constant the current composition of law professors on the basis of sex and under-represented minority status by imposing denial rates separately for these groups.\textsuperscript{27} These results are reported in Figure 8. We find no evidence that the simulations applying uniform tenure denial rates significantly overstate the benefits of stricter tenure standards. Even if law schools adjusted tenure standards to account for differences across teaching fields and demographics, the benefits of stricter tenure standards would thus still be similar to the estimates reported in Section 3.

5 Allowing for Equilibrium Effects to Stricter Tenure Standards

The main analysis used static simulations that assumed that there would not be behavioral responses or equilibrium effects of stricter tenure standards. However, stricter tenure standards will likely affect many aspects of the labor market of legal academics. Modeling the equilibrium effects would thus require a structural model of both individual behavior and law school behavior, along with estimates on likely behavioral responses. Such a model would likely need to incorporate responses including any changes in the effort of pre-tenured law professors and changes to the set of individuals who attempt to enter the legal academy. But

\textsuperscript{26} Although this process decreased the differences in tenure denial rates between the fields with large differences in Panel B of Figure 7, it created larger differences in other fields. For example, this updated prediction would lead to a tenure denial rate of greater than 15 percent for intellectual property law faculty under a market-wide denial rate of 10 percent.

\textsuperscript{27} It is important to note that these results are based on a sample of faculty that we were able to match to a 2012 AALS list. Given that this is a selected sample and there may be differences in pre-tenure and post-tenure research records over time that correlate with diversity, additional research is needed to further explore the impact that stricter tenure standards would have on faculty diversity.
given the wide range of potential equilibrium effects of stricter tenure standards, estimating a fully calibrated structure model is out of the scope of this article.

Instead, we assess whether the most plausible behavioral responses to stricter tenure standards that could reduce the estimated benefits to the academic impact of law school faculties are likely to be sufficiently large to counterbalance the benefits of stricter tenure standards that we estimated in Section 3. In particular, we relax three assumptions from the static simulations. First, we allow for the possibility that law professors increase their pre-tenure effort to enhance their pre-tenure research record. Second, we allow for the possibility that any increase in entry-level hiring could deplete the available pool of strong entry-level candidates. Third, we allow for the possibility that some aspiring law professors could be scared away from entering legal academia.

**Increased Pre-Tenure Output.** The static simulations assumed that law professors would not respond to stricter tenure standards by changing their pre-tenure effort in order to publish more articles, place more articles in highly ranked journals, and produce research that will be cited more. This assumption is unrealistic because many law professors would likely adjust their pre-tenure research effort if they faced greater risk of tenure denial.

Importantly though, two of the most plausible ways that law professors could change their effort would not lead the static simulations to overstate the benefits of stricter tenure standards. First, if all law professors increase their pre-tenure output equally (or in any other way that does not change the ordinal ranking of professors at the bottom of the distribution) but post-tenure impact does not change, the same set law professors would be simulated to be denied tenure. Second, if only some law professors increase pre-tenure output but those same law professors also realize a similar increase in post-tenure impact, the estimated benefits are unlikely to be greatly affected because, although the ordinal pre-tenure rankings change, the accuracy of pre-tenure prediction of future impact would not meaningfully change.

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28 For example, the potential equilibrium effects include how any development of research habits pre-tenure that translate into increased post-tenure output, how having better colleagues could have positive peer effects on already tenured faculty, and how salary structures could change incentives and hiring practices.

29 Although we discuss this dynamic simulation in terms of effort, it can be observationally equivalent to stricter tenure standards changing the projects that academics pursue pre-tenure. For example, if there are low tenure standards, pre-tenure academics might choose to pursue low risk projects because they will turn into publications that will get them tenure. But if standards are increased, the academic might take on a set of projects with a different risk profile, which might include more higher-risk and higher-reward projects and fewer low-risk and low-reward projects.
The main way that the static simulations could overstate the gains from stricter tenure standards is if law professors increase their pre-tenure output differentially in a way that weakens the signal value of research records. Specifically, this would occur if some law professors increase their pre-tenure output but not their post-tenure output in response to stricter standards, while other law professors do not change their pre- or post-tenure output in response to stricter standards. This scenario would introduce noise into the signal that pre-tenure research record provide about post-tenure impact, causing the original pre-tenure ranking to change in a way that is unrelated to post-tenure impact. As a result, the set of law professors simulated to meet the tenure standard in the static simulations would have higher average future academic impact than the set of law professors who would actually be granted tenure given the equilibrium response.

Although there are any number of ways to model these responses, we focus on one that is particularly likely to weaken the signal value of research records. In particular, we calculate the average pre-tenure research record for a given peer group, and then we simulate adding that number of articles, placements, and citations to the existing research record of a randomly selected share of law professors. We specifically simulate adding this additional output to between 0 percent to 100 percent of law professors. Given that we simulate some law professors increasing their pre-tenure output and other law professors not changing their pre-tenure output, we feel that the simulations are based on conservative assumptions. This exercise focuses on weakening the signal value of pre-tenure research records and denying tenure to a different set of law professors, so we focus on the Smaller Tenured Faculty counterfactual because it allows us to directly compare the original set of law professors simulated to be granted tenure under stricter standards to the new set of law professors simulated to be granted tenure under stricter standards after allowing for this equilibrium effect.

Panel A of Figure 9 reports the results for increases in tenure denial rates of 10, 20, and 30 percentage points. The x-axis is the percent of law professors who are randomly

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30 We experimented with a variety of approaches to modeling this dynamic response and find consistent results. For example, we randomly added up to 5 additional articles, up to 5 additional top 20-articles, and up to 200 additional citations to between 0 percent and 100 percent of law professors pre-tenure research records. These simulations would be important if stricter tenure standards could change the relative predictiveness of the three pre-tenure measures. For instance, stricter standards could result in the generation of more total articles, and those articles may then compete for a limited number of journal spots; if the actual impact of research were held constant, the weight put on these measures should correspondingly change.
assigned to double the average output of their peer group, and the y-axis is the estimated gains in median citations to post-tenure articles of the faculty that the law school initially tenures. At each of the three denial rates, the figure reports the simulated benefits from the static Smaller Tenured Faculties counterfactual simulations from Figure 4 (solid lines) and from the dynamic simulations (dashed lines). Although we find that the estimated benefits of stricter tenure standards are lower in the dynamic simulations, the benefits of stricter tenure standards are never erased even under the conservative assumptions about the share of law professors who would double their pre-tenure output.

**Depletion of The Pool.** The static simulations assumed that law schools that elected to fill vacant positions with an entry-level candidate filled those positions from the distribution of law professors who were actually hired. This assumption would be violated if any increase in entry-level hiring changes the available pool of entry-level candidates. In particular, if additional entry-level hiring depletes the pool of strong candidates available on the entry-level market, the simulations may overstate the benefits of stricter tenure standards.

To assess whether the benefits of stricter tenure standards from the static estimate are likely to be counterbalanced by a depleting pool of strong entry-level candidates, we apply a marginal depletion rate where every additional percentage point increase in the tenure denial rate is associated with a corresponding reduction in the percentile of the predicted future impact of the simulated additional hires. The static simulations had a depletion rate of 0, meaning that the strength of the pool of candidates does not depend on the number of additional entry-level hires. A depletion rate of 1 implies that the 1st percentage point of vacant positions are filled with the 50th percentile of predicted future impact from the entry-level pool (the same as the median counterfactual in the static simulations), the 2nd percentage point are filled with the 49th percentile of the predicted future impact from the entry-level pool, and so forth. A depletion rate of 2 implies that the 1st percentage point of vacant positions are filled with the 50th percentile of predicted future impact from the entry-

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31 Tenure standards could change the set of individuals who become entry-level academics. This could result from: (1) changing the set of who goes on the entry-level market (e.g., because tenure standards in law schools are low, the payoff for a job in a law school would be lower with higher tenure standards, which may push talent away from law schools), (2) changing the set of people that law schools hire (e.g., if law schools deny tenure to more faculty, they might be willing to take more chances on candidates), or (3) changing the timing of when people go on the market and are hired (e.g., if law schools deny tenure to more faculty, they might be willing to take more chances on candidates, and in turn people might go on the market sooner).

Electronic copy available at: https://ssrn.com/abstract=3200005
level pool, the 2nd percentage point are filled with the 48th percentile of the predicted future impact from the entry-level pool, and so forth. We vary the marginal depletion rate from 0 to 2. We think that the depletion rates we consider are conservative because (1) increasing the tenure denial rate may only require hiring a few dozen additional entry-level candidates each year,\(^{32}\) (2) the additional entry-level hires for the top 50 law schools would likely consist of law professors hired at lower ranked schools rather than aspiring law professors who did not enter the legal academy, and (3) there are many law professors who get tenure at law schools outside of the top 50 that have high academic impact (see Figure 2).

Panel B of Figure 9 reports the results for the Entry-Level Hiring counterfactual for increases in tenure denial rates of 10, 20, and 30 percentage points. The x-axis is the depletion rate, and the y-axis is the increase in faculty impact. Each panel reports the static estimates from the Smaller Tenured Faculties counterfactual (thick solid line) and the Entry-Level Hiring counterfactual (light gray shading) based on the estimates from Figure 4, as well as the dynamic estimates (dark gray shading). If the dynamic estimates are below the Smaller Tenured Faculties counterfactual, this would mean that law schools would have higher impact if they did not fill the vacant positions than if they filled the vacant positions with entry-level hires. This is possible because even if law schools hold additional entry-level hires to the same standards, the additional entry-level hires that meet the tenure standard could go on to have academic impact below the median of the original faculty that would meet the standard. We find that the estimated benefits are still greater than the Smaller Tenured Faculties counterfactual under most assumed depletion rates. This suggests that, even when making conservative assumptions about the strength of the entry-level pool in a world with increased tenure standards, law schools could improve their impact by filling positions with entry-level hires rather than having smaller faculties.

**Scaring People Away from Legal Academia.** The static simulations assumed that all law professors who actually entered the profession would have entered had there been stricter tenure standards. This assumption would be violated if stricter tenure standards would have scared some aspiring law professors away from entering legal academia, including those who

\(^{32}\) The exact number of additional entry-level candidates that would be required each year depends on the marketwide tenure denial rate and the share of the law professors denied tenure whose positions would be filled by entry-level, rather than lateral, candidates.
would stay in private sector and those who might enter other academic departments. That said, it is not obvious how changes to tenure rates would impact the strength of candidates that try to enter legal academia. For instance, it is possible that stricter tenure standards could induce strong candidates to become academics by opening up more jobs for entry-level candidates and therefore improving prospects of those going on the market of landing a position.\textsuperscript{33} Moreover, if stricter tenure standards scare away law professors who are more likely to be on the margin of not receiving tenure, it would likely not lead the static simulations to overstate the benefits to faculty impact. But if stricter tenure standards do indeed scare away some promising academics (e.g., those individuals considering academia that also have great outside options in legal practice or other academic departments), the simulations may overstate the benefits of stricter tenure standards.

Assessing how this equilibrium effect could affect the estimated gains to faculty impact requires making assumptions about which law professors who actually entered the legal academy would have been scared away had there been stricter tenure standards. We take a conservative approach and assume that law professors are scared away at random. Because law professors who were actually hired but would have been scared away with stricter tenure standards creates vacant positions that would be filled, this exercise also requires assumptions about how other prospective academics would have been scared away. We apply a marginal depletion rate where every additional percentage point of law professors scared away is associated with a corresponding 1 percentage point reduction in the percentile of the pool of entry-level hires that would fill the positions.

Panel C of Figure 9 report the results for increases in tenure denial rates of 10, 20, and 30 percentage points. The x-axis is the simulated percent of law professors who do not enter legal academy, and the y-axis is the increase in faculty impact. The figure reports the \textit{Smaller Tenured Faculties} counterfactual (thick solid line) estimates from Figure 4 as well as these new dynamic estimates (dashed line). We stop each of the series when there would no longer be benefits to stricter tenure standards. Even under the assumption that the vacant positions are filled by entry-level hires who are marginally depleted at a 1:1 rate, we find

\textsuperscript{33} One concern for candidates considering academia is the possibility of landing a job in an undesirable location and then being unable to move for years. Increased tenure denials might also expand the lateral market and increase lateral movement, which would help to alleviate this concern.
that stricter tenure standards must scare away more academics than are denied tenure for the estimated benefits of stricter tenure standards to be meaningfully decreased. Given that other fields—including fields where potential academics have lucrative outside options like finance and economics—have stricter tenure standards while still having fiercely competitive job markets, we believe that potential law professors are unlikely to be scared off at greater rates than the increases in tenure denial rates.

6 Conclusion

This article assessed the potential value of using data to inform personnel decisions at law schools. We found that law professors’ pre-tenure research records can be used to make fairly accurate predictions about their post-tenure academic impact. These predictions are even fairly accurate for professors who would be at risk if stricter standards were to be applied—that is, the professors at the bottom of the distribution of predicted future academic impact. For instance, we found that 53 percent of law professors in the bottom quartile of predicted post-tenure citations were also in the bottom quartile of actual post-tenure citations. Employing microsimulations which simulated denying tenure to law professors with the lowest predicted academic impact, we found that stricter law school tenure standards could yield significant increases in law schools’ academic impact even under a relatively conservative set of assumptions.

That said, it is important to note that there are limitations to the results. For instance, the simulations rely on the assumption that increasing tenure standards would not affect pre-tenure effort or the pool of potential candidates. Although we find no evidence that changing these assumptions would meaningfully change out results, radically altering law school tenure standards would likely reshape legal academia in ways that we are of course unable to account for. Nonetheless, given the large potential benefits to stricter tenure standards that we estimate, the evidence suggests law schools should rethink their current tenure standards.
References


Figures and Tables

Figure 1: Articles, Placement, and Citations Before and After Tenure By Tenure-Cohort

A. Pre-Tenure Articles

B. Post-Tenure Articles

C. Pre-Tenure Top 20 Articles

D. Post-Tenure Top 20 Articles

E. Pre-Tenure Citations

F. Post-Tenure Citations

Note: The figure reports the mean number of articles, articles published in top 20 law reviews, and citations for each tenure cohort over time. Panels A, C, and E report the pre-tenure means. Panels B, C, and D report the means in the 10 years after tenure. Tenure cohorts with less than 10 law professors in the sample are not shown.
Figure 2: Distributions of Law Professor Lifetime Citations by Law School Rank

Note: The figure reports a letter value plot of the distributions of the within-tenure cohort percentile of law professor citations for three groups of law school rank. Each distribution provides the range of percentiles in academic impact. Each distribution is broken down by decile, but where the top decile is broken into two groups (the 90th to 95th percentile and the 95th to 99th percentile) and where the bottom decile is broken into two groups (the 10th to 5th percentile and the 5th to the 1st percentile).
Table 1: Predicting Citations to Post-Tenure Articles
With Pre-Tenure Research Records

<table>
<thead>
<tr>
<th>Years After Tenure</th>
<th>ln(Citations to Post-Tenure Articles)</th>
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<tr>
<td></td>
<td>(1)</td>
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<tr>
<td>5 Years</td>
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<td>10 Years</td>
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<td>20 Years</td>
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<td>All</td>
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Pre-Tenure Articles | 0.07*** | 0.07*** | 0.07*** | 0.06*** |
|                    | (0.01)  | (0.02)  | (0.02)  | (0.02)  |

Pre-Tenure Articles in Top 20 Law Reviews | 0.25*** | 0.30*** | 0.34*** | 0.35*** |
|                                           | (0.03)  | (0.03)  | (0.04)  | (0.04)  |

ln(Pre-Tenure Citations) | 0.24*** | 0.31*** | 0.34*** | 0.36*** |
|                         | (0.04)  | (0.05)  | (0.05)  | (0.05)  |

Tenure-Cohort FE | Yes | Yes | Yes | Yes |
Observations | 1,712 | 1,712 | 1,712 | 1,712 |
R-squared | 0.284 | 0.283 | 0.260 | 0.236 |

Note: The table reports regression results from Equation 1. The outcome is the natural log of law professors’ citations to articles published post-tenure as of different years after tenure. The outcomes in Column (1), (2), and (3) are the number of citations to articles published post-tenure within 5, 10, and 20 years after tenure. The outcome in Column (4) is all citations received as of 2018. To account for zeros in the pre- and post-tenure citations, we add 1 to the citations before taking the natural log. Standard errors are in parentheses. * p<0.1, ** p<0.05, *** p<0.01.
Figure 3: Predicted Citations and Citations to Post-Tenure Articles

Note: The figure reports the relative positions of law professors in the distribution of predicted impact and actual future impact. Leave-out predictions for each law professor are formed by estimating Equation 1 for citations to post-tenure articles in the 10 years after tenure while leaving the law professor in question out of the regression and then collecting fitted values. The figure reports the percentage of law professors from the predicted citation quartiles and the actual citation quartiles.
Figure 4: Simulated Benefits of Stricter Tenure Standards

Note: The results are based on simulations where we generate predictions of future academic impact based on pre-tenure research records, rank law professors by their predicted future impact within defined tenure cohorts, impose counterfactual tenure denial rates, and fill the resulting simulated vacant faculty positions with other faculty under various counterfactual scenarios. The x-axis is the simulated percentage point increase in tenure denial rates. The y-axis is the percent increase in law schools’ citations to post-tenure articles within 10 years of tenure for the counterfactual median professor compared to the citations to post-tenure articles within 10 years of tenure for the set of professors actually granted tenure by a given law school. The Smaller Tenured Faculties counterfactual simulates law schools having a smaller percentage of tenured faculty relative to nontenured faculty by not filling the vacant positions with another simulated faculty member. The Lateral Hiring counterfactual simulates law schools filling the vacant faculty positions entirely with lateral candidates who are tenured at other law schools. The Entry-Level Hiring counterfactual simulates law schools filling the vacant positions with entry-level candidates from the same current entry level distribution. The Maximize Impact Hiring counterfactual simulates law schools using a combination of entry-level and lateral hiring to try to maximize the academic impact of faculty filling the vacant positions.
Figure 5: Share of Faculty Selected for the Maximum Impact Hiring Counterfactual By Hiring Strategy

Note: The results are based on simulations where we generate predictions of future academic impact based on pre-tenure research records, rank law professors by their predicted future impact within defined tenure cohorts, impose counterfactual tenure denial rates, and fill the resulting simulated vacant faculty positions using a combination of entry-level and lateral hiring to try to maximize the academic impact of faculty filling the vacant positions. The y-axis is the breakdown of how the positions in the Maximize Impact Hiring counterfactual are filled between lateral and entry-level candidates. The x-axis is the simulated percentage point increase in tenure denial rates.
Figure 6: Simulated Costs of Stricter Tenure Standards

Note: The results are based on simulations where we generate predictions of future academic impact based on pre-tenure research records, rank law professors by their predicted future impact within defined tenure cohorts, impose counterfactual tenure denial rates, and fill the resulting simulated vacant faculty positions with other faculty under various counterfactual scenarios. The x-axis is the simulated percentage point increase in tenure denial rates. The y-axis is the rate that law professors who are simulated to be denied tenure go on to have greater academic impact than the faculty simulated to fill the vacant positions. The Lateral Hiring counterfactual simulates law schools filling the vacant faculty positions entirely with lateral candidates who are tenured at other law schools. The Entry-Level Hiring counterfactual simulates law schools filling the vacant positions with entry-level candidates from the same current entry level distribution. The Maximize Impact Hiring counterfactual simulates law schools using a combination of entry-level and lateral hiring to try to maximize the academic impact of faculty filling the vacant positions.
Figure 7: Distribution of Simulated Tenure Denial Rates Across Law Schools, Teaching Fields, and Law Professor Demographics

**A. Law Schools**

**B. Teaching Fields**

**C. Law Professor Demographics**

Notes: Each panel reports the distribution of tenure denial rates across different dimensions for simulations applying marketwide denial rates without consideration of differential impacts by law school, teaching field, or professor demographics. Each panel reports the increased tenure denial rates of different groups of law professors for a simulated marketwide increases in the denial rate of 10, 20, or 30 percentage points. Within a panel, the groups are sorted such that the group on the left (e.g., in Panel B, tax law) would have the highest tenure denial rate and the group on the right (e.g., in Panel B, constitutional law) would have the lowest tenure denial rate.

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Figure 8: Simulations Applying Tenure Standards that Account for Teaching Field and Professor Demographics

A. Teaching Fields

![Graph A: Teaching Fields]

B. Demographics

![Graph B: Demographics]

Note: Each panel reports the results of simulations that deny tenure in a way to account for teaching field or professor demographics. The x-axis is the simulated percentage point increase in tenure denial rates. The y-axis is the rate that law professors who are simulated to be denied tenure go on to have greater academic impact than the faculty simulated to fill the vacant positions. Panel A reports the results of applying adjusted tenure standards by teaching fields (dashed line) and the baseline results without any adjustment for teaching field (solid line). Panel B reports the results of holding constant the current composition of law professors on the basis of sex and under-represented minority status. These results are based on a smaller sample of law professors (law professors who were in the 2012 AALS list of law professors), resulting in a different baseline than in Panel A.
Figure 9: Dynamic Simulations Assessing Whether Behavioral Changes Are Likely to Counterbalance the Benefits of Stricter Tenure Standards

A. Increased Pre-Tenure Output

B. Depletion of the Pool

C. Scaring People Away from Academia

Note: Panel A reports the results of the Increased Pre-Tenure Output simulations that relax the assumption that law professors would not respond to stricter tenure standards by increasing their pre-tenure effort. It reports estimated increases in law schools' academic impact with simulated changes in pre-tenure effort on the x-axis. Panel B reports the results of the Depletion of the Pool simulations that relax the assumption that pool of entry-level candidates would not change under increased entry-level hiring. The panel reports estimated increases in law schools' academic impact with simulated changes in entry-level pool of candidates on the x-axis. Panel C reports the results of Scaring People Away from Academia simulations that relax the assumption that all law professors who actually entered the profession would have entered had there been stricter tenure standards. It reports estimated increases in law schools' academic impact with simulated changes in supply of aspiring law professors on the x-axis. For each simulation, results are reported for increases in tenure denial rates of 10, 20 and 30 percentage points and the y-axis is the percent increase in law schools’ citations to post-tenure articles within 10 years of tenure for the counterfactual median professor compared to the citations to post-tenure articles within 10 years of tenure for the set of professors actually granted tenure by a given law school. The Smaller Tenured Faculties counterfactual from the static simulations is reported for reference.