Legislation, Regulation and Litigation: Demand for U.S. Legal Services in Historical Perspective*

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Abstract

The U.S. legal services industry experienced a dramatic demand shift between 1970 and 1990: the employment share more than doubled and relative wages of lawyers rose by 60%, in stark contrast to stability before and after this period. We argue that this demand shift was driven by legislative and regulatory changes starting in the 1960s, which increased the scope of the law and created uncertainty over legal outcomes. The government—lacking the capacity to enforce all of the new legislation—introduced fee-shifting provisions to enlist private attorneys as enforcers. Using over 100 years of data, we show that lawyers' employment and compensation track federal regulation, fee-shifting statutes, and civil litigation. We exploit variation arising from the addition of fee-shifting to pre-existing legislation, and find that the additions caused sharp increases in case filings. State-level analysis corroborates the link between legislation and demand for lawyers, and we find little support for alternative explanations. We estimate that greater legislative uncertainty accounts for 13% of the demand shift; a cost of 28 billion dollars in 2024 alone.

JEL classifications: J2, J3, N3, K00.

Keywords: legal services, lawyers, legislation, deregulation, litigation, labor demand.

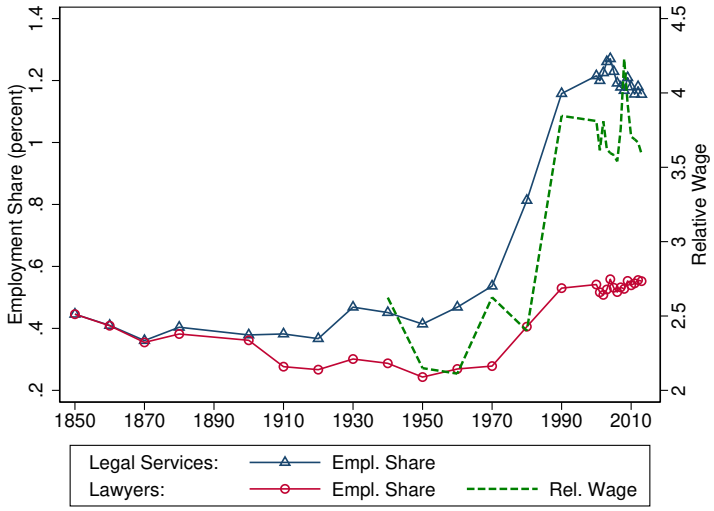
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1 Introduction

The U.S. legal services industry experienced a secular expansion in 1970–1990, more than doubling from 0.53% to 1.15% of private sector employment. As Figure 1 illustrates, this is in stark contrast to the relative stability in the employment share in the preceding 120 years—and to stability in the 35 years since. Over the same two decades, the relative wage of lawyers and law firm partners increased by 60%. The simultaneous increase in both the quantity and the price of legal services implies a relative demand shift that outpaces the growth in lawyer supply. This paper studies the determinants of this demand shift.

We find that the main contributors to the increase in relative demand for lawyers are changes in the legal environment. Starting in the mid-1960s, the United States enacted a series of landmark laws—social regulation covering civil rights, environmental protection, workplace safety, and consumer protection—that expanded the domain of legally actionable conduct and created new opportunities for litigation. Crucially, the government did not always expand capacity to enforce the new legislation. Instead, the legislature enacted "fee-shifting" provisions, in order to provide an incentive for lawyers in the private sector to take up "public interest" cases. Simultaneously, the U.S. embarked on a wave of economic deregulation that, in many cases, increased regulatory complexity rather than reducing it. Together, these changes increased both the scope of the law and uncertainty over legal outcomes, fueling demand for legal intermediation.

Figure 1: Employment shares and relative wages of legal services



Notes: Employment measured in hours, and the shares are within the private sector. The relative wage of legal services is the average wage in legal services divided by the average wage in the private sector, excluding legal services. Hours worked is sourced from the decennial Census from 1850–2000, and the American Community Survey from 2001–2015. The relative wage of lawyers series includes lawyers and partners, see Section 2.2 for more.

We combine multiple data sources to document the evolution of employment, remuneration, and composition in legal services from 1850 to 2015. We start by establishing a set of facts about the industry and the demand shift. First, within-state changes explain all of the aggregate increase in employment and compensation. Second, the ratio of law firm partners to associates drops sharply between 1970 and 1990, consistent with an increase in the size of the market. Third, lawyers became more specialized during the time period of interest; the share of lawyers reporting a specialization increased by 30 percentage points between 1972 and 1992. Finally, we use individual-level wage data to show that the increase in wages is not explained by changes in lawyers' demographics.

Then, we provide theory and evidence for the link between the legislative environment and demand for lawyers. The introduction of social regulation and economic deregulation of the 1960s, 1970s and 1980s affected legal intermediation in two main ways. First, by increasing the scope of the law, easing entry into the justice system and by increasing the effective intensity of regulation, these acts expanded the "market" for lawyers and demand for their services. Second, deregulation of certain industries and broadly written social regulation increased uncertainty about outcomes once the judicial process starts, leading to greater sensitivity of outcomes to effort and, therefore, directly increasing remuneration of lawyers. We show that there is a marked increase in the ambiguity of legislation introduced during the 1970-1990 period (using data from Ash et al. 2024).

Consistent with our hypotheses, we find that employment and wages in legal services are tightly correlated with federal regulation, as measured by pages of the Code of Federal Regulations, fee-shifting provisions, and with civil litigation intensity, over a span of more than a century. These patterns hold in state-level analysis, which exploits cross-state variation in exposure to federal civil rights and environmental legislation, as well as state level regulations such as no-fault divorce, wrongful discharge, and banking law.

Next, we use detailed data on federal civil cases to estimate the effect of fee-shifting provisions on the demand for legal services. We can identify the effect of these provisions for two specific events where fee-shifting was introduced, or significantly strengthened, years after the original legislation was passed. For the Lanham Act (trademark law), we find that the introduction of fee-shifting in 1975 more than doubled trademark litigation within five years, adding roughly 900 cases per year across federal districts. For the Fair Housing Act, the 1988 amendments—which substantially strengthened fee-shifting provisions—led to a nearly sixfold increase in housing discrimination case filings, adding roughly 1500 cases per year across districts. These two estimates suggest a significant increase in litigation due to fee-shifting provisions. We extend the Hirshleifer & Osborne (2001) model to show how such provisions affect the *effort* of lawyers in these cases, translating into higher compensation.

We rule out a number of alternative explanations. Growth in economic activity, firm density, and industrial composition do not account for the timing or magnitude of the expansion in legal services. We find no evidence of a change in lawyer quality, and no acceleration in law school fees, that could explain the increase in relative compensation. Changes in the demographic composition of lawyers do not drive the wage premium. Information and communications technology, which reshaped demand for skill in many sectors over this period, does not appear to have played an important role in legal services.

While new laws and regulations may have a positive effect on social welfare, they are not costless. This is only amplified by the broadness with which the new legislation was written, uncertainty, and the government's limited capacity for enforcement. As a final exercise, we provide two back-of-the-envelope calculations of the "excess" cost of these reforms. The first focuses on uncertainty: under the assumption that the scope expansion of law was socially beneficial but the increase in legislative ambiguity was not, we estimate that roughly 13% of the lawyers' wage bill—between 20 and 28 billion dollars in 2024—reflects misallocation of talent due to uncertainty in new legislation. The second calculation takes the increase in the quantity of legal employment as given, but treats the increase in relative wages as an unproductive rent. This suggests a larger excess cost of approximately 75 billion dollars per year, reflecting a transfer from consumers to suppliers of legal services.

Related literature. We contribute to several strands of literature. First, we contribute a long-run historical perspective on the legal services industry. Pashigian (1977), argues that demand for lawyers in 1920–1970 is driven mostly by increases in real GNP, but our longer time series shows that this cannot be the case.[1] Sander & Williams (1989) document the growth in the number of lawyers and their renumeration but stop short of offering an explanation for the changes.[2] Consistent with our paper, Rosen (1992) argues that demand drives the increase in quantity and wages in 1970–1980, and that supply of lawyers is elastic in the medium run, but does not explain why demand grew when it did. Hadfield (2000) discusses the sources of high legal fees, emphasizing the complexity and uncertainty of the legal process but not its' evolution. By focusing on the timing and incidence of specific legislative and regulatory changes, we offer an explanation that is grounded in the legal

[1] First, output per worker is increasing throughout our sample, but lawyers as a share of the labor force is either declining or stable for most of it. Second, the rapid growth in the employment share of lawyers from 1970 does not coincide with an acceleration in real output growth—quite the opposite.

[2] Sander & Williams (1989) argue that supply increased more than demand and dismiss social regulation as a major cause of change, arguing that corporations have become a more important source of demand for legal services. We note that corporations may be sourcing defensive legal services as a result of the threat of litigation that is enabled by social regulation, a phenomenon that legal scholars have sometimes called the "invisible fist" (Olson, 1991). However, we do not find that industry has significantly increased its importance as a source of income for legal services, relative to households and the government; see Appendix D.

environment and is consistent with Hadfield (2000).

Second, we contribute to the literature on the allocation of talent. Baumol (1990) describes several historical episodes where changes in "the rules" affected private incentives faced by entrepreneurs to conduct unproductive activities. Murphy et al. (1991) formalize this notion in a model, and empirically find that countries with more lawyers grow more slowly.[3] We study the sources of variation in legal activity intensity within the United States, using variation in the legislative environment as a lever. Relatedly, we contribute to the literature on demand for skill and inequality, which mostly focuses on technological change and globalization. We show that changes in the legal and regulatory environment can be equally important—and similary persistent—drivers of relative demand for skilled workers. While we show this for lawyers, Gottlieb et al. (2023) find that government healthcare policy explains the high earnings of physicians.[4]

Third, we contribute to a growing literature on the indirect costs of legislation and regulation in the United States. Brooks & Liscow (2020) show that some of the same legislative changes that drove demand for lawyers also increased the cost of building infrastructure, through requirements for citizen voice and environmental review. Trebbi et al. (2023) measure regulatory compliance costs for firms today and find that lawyers rank among the occupations with the highest regulation-related task intensity. This is not surprising, given the necessity of private litigation to enforce government regulation (Shleifer, 2005, 2010). Our finding that changes in the legislative environment increased the demand for lawyers is consistent with research on the role of lawyers in shaping legislation (Bonica, 2017; Barton, 2010; Hadfield, 2000), and with the scholarship on fee-shifting more specifically (Farhang, 2010; Coffee, 1986; Carroll, 2023).

Finally, our paper provides a complementary perspective on Ash et al. (2024), who find that increases in legal provisions (elements of statutes in legislation) cause greater growth across U.S. states. They interpret this finding as a reduction in the degree of contract incompleteness. Our paper suggests that such growth-enhancing legislation comes at a cost: employment and remuneration of lawyers. Furthermore, we find that over this period, while there was an increase in legal provisions across states, there was also an increase in ambiguity of the legislation. This measure of uncertainty is correlated with less growth in their paper, and increases in lawyers' employment share in our own.[5]

The rest of the paper is organized as follows. We start by establishing a set of facts about the

[3]This point is also made in Magee et al. (1989), though their focus is on lobbying.

[4]These effects are more likely to be found in economic activities where asymmetric information and trust govern relationships (credence goods), such as legal intermediation. Philippon & Reshef (2012) and Boustanifar et al. (2017) make this point in the context of the financial sector.

[5]This is consistent with recent work on the cost of poorly written laws by Giommoni et al. (2025), which shows that GDP in Italy would be 5% higher if all laws were written as clearly as the constitution.

industry in Section 2. Section 3 discusses the demand for legal services, with both a theoretical framework and long run historical correlates of legal activity. In Section 4 we present the analysis of the fee-shifting provisions, and in Section 5 we exploit variation across states to bolster the historical correlations. In Section 6 we review other potential explanations for the increase in demand for lawyers, for which we do not find much support. In Section 7 we conduct our back-of-the-envelope counterfactual.

2 Facts

We draw on several data sources to document the evolution of legal services in the U.S.[6] We use the following micro data: the U.S. Censuses of 1850–2000, the American Community Survey (ACS) in 2001–2015, and the Current Population Survey (CPS) in 1967–2015, all of which distinguish individuals within an industry by occupation and other demographics.[7] We supplement the censuses and surveys with industry-level data from the Bureau of Economic Analysis (BEA) in 1929–2015. The BEA data have three main advantages over the survey data: (1) the data do not suffer from top coding and include all forms of compensation, (2) all workers are accounted for on a full-time equivalent basis, and (3) it is possible to distinguish proprietors and their income from employees and their compensation.

Data on lawyers' fields of specialization come from the Census of Services. The Census of Services is conducted every five years starting in 1967, but legal services firms are asked about lawyers' fields of specialization only in 1972–1992. We obtain the total number of lawyers by field of specialization in the aggregate and at the state level (for 28 states).[8] For the period of 1931-1963 we digitize the Martindale Hubbell Legal Directories, which include information on law firms' fields of specialization, biographies of lawyers, and the clients of law firms, across the entire United States.[9] We use the data to establish the following facts.

2.1 The employment share of legal services more than doubled from 1970–1990.

Figure 1 depicts the evolution of employment shares of legal services and lawyers in private sector employment. We juxtapose the employment share of legal services with its relative wage, which

[6] We keep the data description to a minimum here and relegate additional details to Appendix A.

[7] We verify that the total number of lawyers (using sampling weights) in the Censuses and surveys is in line with data from the American Bar Association (ABA) from 1878 and on. The main disadvantage of these sources is the reporting of income: wages and other income are self-reported and top coded, i.e., the highest values are censored. In addition, it is difficult to distinguish between employees and proprietors, in particular, between associate lawyers who are employees and law firm partners and sole proprietors. Although some individuals report income as business income (in addition or instead of wage income), this distinction is insufficient to characterize the status of proprietorship.

[8] Due to data limitations we cannot complete this information for all states. See Appendix A for more details.

[9] We are still in the process of digitizing data from Martindale Hubbell.

we define below in Section 2.2. The most important feature of Figure 1 is the sharp increase of employment shares from 1970 to 1990, compared to the relative stability before and after this period. The employment share of legal services more than doubles during these 20 years, from 0.53% to 1.15%, after which it remains relatively stable, at 1.2% on average. For lawyers employed in legal services, the increase is from 0.28% to 0.53%.[10] The long run evolution of legal services' employment share is similar to the evolution of its wage bill share and value added share. Importantly, all these series increase significantly in the 1970–1990 period.[11]

2.2 Relative wages of lawyers and partners increased by 60% from 1970–1990.

We define the relative wage of legal services as the ratio of the average labor compensation among all employees in legal services to that in the other industries, $w_{nonlegal}$: $\omega_{legal} = \frac{w_{legal}}{w_{nonlegal}}$. Here, we rely on BEA data to construct full-time equivalent wage series. Figure 2(a) shows that ω_{legal} drops from 1.13 in 1933 to 0.67 in 1943, after which it increases at a moderate rate until 1975, when it reaches the same level as in 1933. From 1980 to 1990 the relative wage in legal services increases sharply from 1.10 to 1.82, after which it remains approximately stable.[12] Note that ω_{legal} includes only wage income, not business income, and does not take into account law firm partners and other proprietors; we address this below.

We define the relative wage of lawyers within legal services, $\omega_{lawyer|legal}$, as the ratio of the average labor income among all lawyers within legal services to $w_{nonlegal}$. We compute $\omega_{lawyer|legal}$ in two ways. First, we use Census and ACS data for both the numerator and denominator, denoted $\omega^{Cen/ACS}_{lawyer|legal}$. When doing so we make a simple top-coding adjustment.[13] The second methodology is designed to address top coding in the Census wage data. Here, we combine Census/ACS data with BEA data to impute the relative wage of lawyers, $\omega^{imputed}_{lawyer|legal}$.

Figure 2(b) shows that relative wages of lawyers, using both methodologies, increase in 1960–1980, and then increase more sharply in 1980–1990. From 2000 and on both series are relatively flat, $\omega^{Cen/ACS}_{lawyer|legal}$ at around 2.85 and $\omega^{imputed}_{lawyer|legal}$ at around 3.2. Figure 2(b) also shows that there are hardly any relative wage gains for non-lawyers. Finally, we compute $\omega_{partners|legal}$ using BEA data

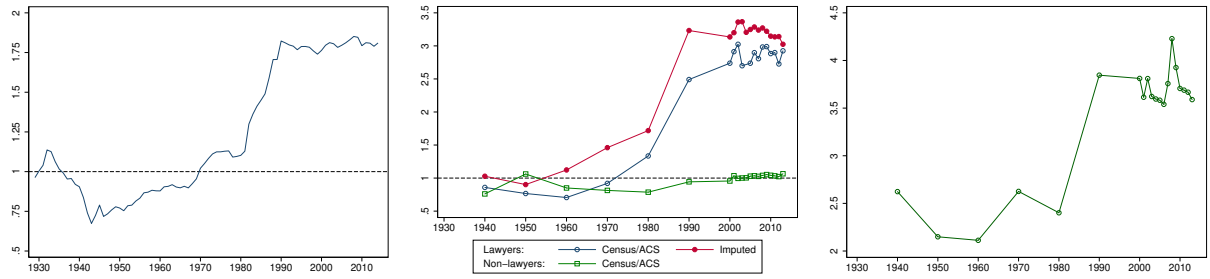
[10] These numbers change little when calculating employment shares out of total employment, including the public sector. See Figure E1(b) in the appendix. Public sector employment during 1970–1990 slightly increases from 7% to 8% of total employment, and thus has little effect on the overall pattern.

[11] See Figure E1(d). The wage bill share and value added share overlap almost perfectly after 1980. The wage bill share and value added shares increase much more than the employment share in 1970–1990, commensurate with the increase in the relative wage during this period.

[12] Relative wage data based on Censuses and the ACS broadly agree with this evolution; see Figure E3(a).

[13] We multiply top-coded wages by 1.5 in 1940–2002. From 2003 we do not adjust top coded wages in the ACS, which reports all wages up to the 99.5th percentile by state of residence; above this threshold wages are coded as the state mean of wages above the state-specific 99.5th percentile. We drop 2004 because it is an extreme outlier in terms of the number of top-coded wage observations. See Appendix A for more information on top coding in the censuses and ACS.

Figure 2: Relative Wages for Legal Services, Lawyers and Law Firm Partners



(a) Legal services (b) Lawyers and non-lawyers (c) Lawyers, including partners

Notes: The relative wage of legal services (in (a)) is the average wage in legal services divided by the average wage in the private sector, excluding legal services. This series uses BEA data on compensation of employees and full-time equivalent employment. The relative wage of lawyers and non-lawyers within legal services (in (b)) uses Census/ACS data on wages, relative to the average wage in the rest of the private sector. Relative wages of lawyers and law firm partners in legal services (in (c)) are imputed. The imputation uses the average wage and employment shares of non-lawyers employed in legal services from the Census/ACS together with the employment and average income of all persons engaged in legal services using BEA data.

on proprietors' income within legal services.[14] In Figure 2(c) we incorporate proprietors' income into $\omega^{imputed}_{lawyer|legal}$: we add proprietors' income to the numerator of ω^{BEA}_{legal} and take into account all persons engaged in the denominator, rather than just employees (Appendix B). We find that this series mimics the lawyers' relative wage series in (b), but at a much higher level, reflecting the higher compensation of partners.

2.3 Within-state changes explain all of the aggregate increase in employment and compensation

We now consider the contribution of compositional changes across states. State bar examinations are natural barriers to mobility of lawyers across state borders and render mobility of lawyers across state borders to be much lower than for the rest of the labor force. This makes states a natural unit of observation, because changes in lawyers' employment within a state are likely mostly driven by new entry, and much less by mobility across states.

We decompose the changes in aggregate employment shares into between and within state changes using the following exact decomposition formula:

$$\Delta S = \underbrace{\sum_i \Delta n_i \overline{s}_i}_{\text{Between}} + \underbrace{\sum_i \overline{n}_i \Delta s_i}_{\text{Within}} , \tag{1}$$

[14] Appendix Figure E4(a) shows that $\omega_{partners|legal}$ drops from 1929 to 1950, remains flat until 1960, and then increases almost linearly, except for one big drop during 1978–1986. This is not driven by the number of proprietors, but by a drop in proprietors income, which a pattern that we see across industries, thus is not specific to partners in the legal services industry (see Appendix Figure E4(b)). Using IRS data, both Sander & Williams (1989) and Rosen (1992) also find a drop in the proprietors' income in legal services around the same time that we do in the BEA data.

where ΔS is the aggregate change in the employment share of legal services over the period, i denotes a state, Δn_i is the change in the employment share of state i, $\overline{s}_i$ is the average employment share of legal services within state i during the period, $\overline{n}_i$ is the average employment share of state i, and Δs_i is the change in the employment share of legal services within state i. The first sum, "Between", captures the importance of compositional changes in state sizes, whereas the second sum, "Within", captures the importance of within-state changes in employment shares.

Appendix Table F1 reports the results. The main takeaway is that factors that specifically affect demand for legal services and lawyers, and not economic activity in general, play an important role in explaining the aggregate changes. In particular, in 1970–1990, within-state changes account for virtually 100% of the aggregate changes. This may arise due to state-specific forces or federal-level changes that affect state-specific intensities. In contrast, factors that affect relative state sizes (employment), while keeping the proportion of lawyers fixed, are not important. In fact, state compositional changes almost always move in the opposite direction.

We decompose the changes in relative wages into compositional changes following a similar calculation to the one we used for the decomposition of employment shares, where $\Delta\omega$ is the outcome of interest instead of ΔS.[15] Appendix Table F2 reports the results. Within-state changes in relative wages matter much more than changes in the composition of states' relative sizes.

2.4 The ratio of law-firm partners to associates halved between 1970–1990

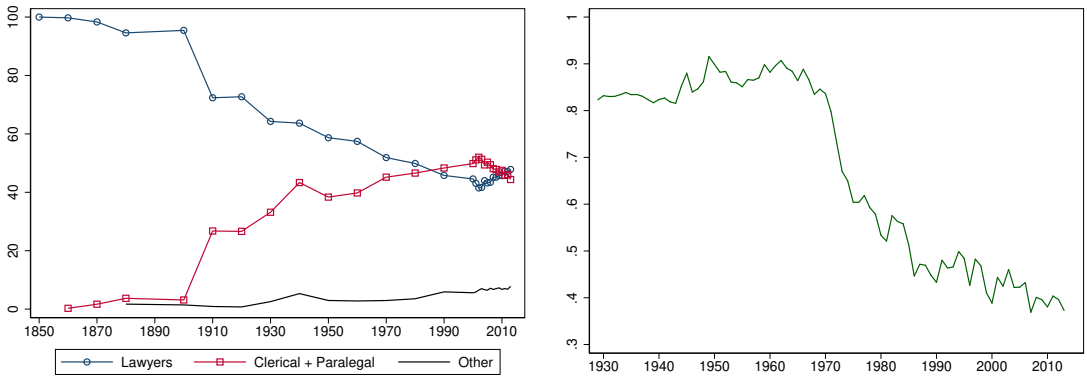
Before 1900 legal services were provided virtually only by lawyers, when lawyers were more than 95.5% of all workers in legal services (Figure 3(a)). After 1900 the share of lawyers in legal services drops, first sharply to 72% in 1910, and then more gradually until it reaches 41% in 2002, after which it increases slightly to 48% in 2015.[16] The sharp drop in lawyers' share within legal services and the commensurate rise of the share of clerical and paralegal staff in 1900–1910 coincides with the rapid diffusion of early ICTs (Yates, 2000). However, ICT does not explain the historical evolution of the share of lawyers within legal services, which we discuss in Section 6.

Another important dimension in which the internal composition of legal services has changed is the decline in the share of law firm partners and sole proprietors to lawyers in legal services, shown in Figure 3(b). This ratio is stable around 0.85 until 1970, after which it drops sharply to 0.45 in 1990, and then continues to decline much more moderately. The implied increase in the ratio of associate lawyers to partners and sole proprietors is consistent with an increase in the scope and "market for legal intermediation" after 1970. Garicano & Hubbard (2007) use the 1992 Census of

[15] See Appendix B for the formula.

[16] Inspection of the Census questionnaires makes clear that the virtual 100% lawyers' share in legal services in 1850 and the drop in their share later on are not mere artifacts; the high share of lawyers before 1900 does not capture secretaries and other legal assistants.

Figure 3: Lawyers and the Composition of the Legal Industry



(a) Lawyers within legal services (%)

(b) Partners as Share of Lawyers

Notes: In (a), employment in the legal services industry is sourced from the decennial Census from 1850–2000, and the American Community Survey from 2001–2015. For (b), law firm partners are approximated by proprietors in legal services, from the BEA. Employment is in terms of full time equivalents.

Services Industries to show how the size of the market is associated with a higher ratio of associate lawyers to partners. In line with the information hierarchies theory of Garicano (2000), in larger markets there is a stronger incentive to delegate simpler and easier tasks to associate lawyers, leaving only the more difficult or complex tasks to partners.[17] The time series trend we document, coinciding with an increase in the relative size of the legal services industry, is complementary to their cross-section analysis.

2.5 Between 1970–1990, lawyers became more specialized.

We use publicly available data from the Census of Services to track the specialization of lawyers from 1972 to 1992 at the aggregate level and for 28 states.[18] Table 1 documents that over this period lawyers have become much more specialized: the share of generalist lawyers declined by more than half from 58.2% to 28.3%, while the share of lawyers that are specialized increased from 41.5% to 71.7%. The increase in specialization coincides with an increase in the relative size of the legal services industry—the majority occurring between 1977 and 1987.

The increase in specialization is not driven by any one field: the shares of lawyers in Banking, Criminal, Domestic, Insurance, and Negligence all increased by at least 65% from 1972 to 1992, and the only fields to experience decreases were Taxation and Wills. Corporate and Real Estate lawyer shares experienced increases of 23%, and Patent Law a modest 10% increase. As in Section

[17] Garicano & Hubbard (2007) argue that their mechanism does not apply to clerical and paralegal workers in law firms due to legal limitations on the range of activities that such workers can perform. For example, they are prohibited from communicating legal advice directly to clients, which, they argue, would prevent hierarchies to expand through their level of employment.

[18] See Appendix A for complete details on variables construction.

Table 1: Shares of lawyers by field, 1972-1992 (percent)

	1972	1977	1982	1987	1992	Change from 1972 to 1992	Rate of change 1972-1992
General	58.5	58.0	43.4	30.3	28.3	-30.2	-0.52
Specialized	41.5	42.0	56.6	69.7	71.7	30.2	0.73
Specialization:							
Banking	2.8	2.3	3.5	5.3	4.5	1.8	0.65
Corporate	6.5	5.8	7.1	9.1	8.0	1.5	0.24
Criminal	1.3	1.9	2.3	2.2	2.4	1.1	0.83
Domestic	1.1	1.7	2.2	2.7	2.6	1.5	1.31
Insurance	2.0	2.1	3.5	4.9	5.8	3.9	1.96
Negligence	7.1	7.0	9.9	12.7	13.4	6.2	0.87
Patent	1.7	1.6	1.7	1.7	1.9	0.2	0.10
Real Estate	4.8	4.6	5.3	7.3	5.9	1.1	0.23
Taxation	2.8	2.8	3.5	3.4	2.6	-0.2	-0.06
Wills	4.8	4.5	4.1	3.7	3.3	-1.5	-0.32
Other	6.6	7.7	13.6	16.9	21.2	14.6	2.22

Notes: These percent shares are calculated from using U.S. totals of lawyers by field from the Census of Service Industries. Shares in General and Specialized sum to 100, and the shares of fields of specialization sum to the share of Specialized.

2.3, we can decompose the changes in field shares into compositional changes in state employment of lawyers, and within-state changes in employment shares of each field. Appendix Table F3 reports the results of the field of law decompositions. Across the U.S., lawyers became increasingly specialized, and increases in any given field are not driven by compositional changes across states.

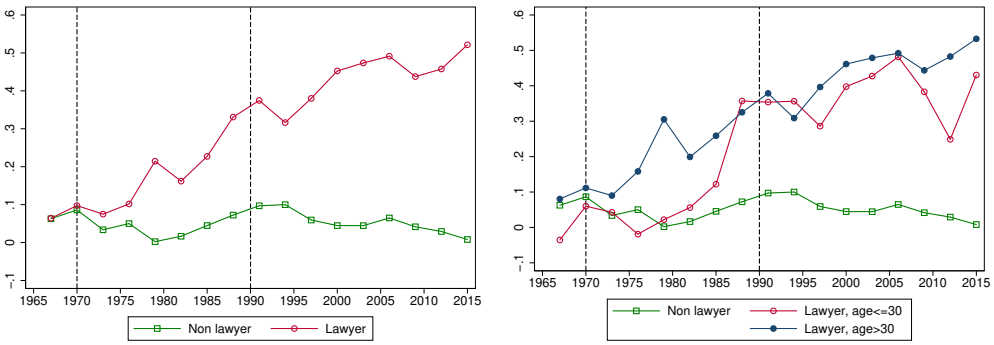
Finally, we examine the industry composition of lawyers' employment, between legal services, industry and government. Appendix Figure E1(c) illustrates that most lawyers are employed in legal services, and that the evolution of their employment shares is different from those of lawyers in industry and in government. This indicates that the forces that determine the evolutions in Figures 1 and 2 are related to the legal services industry in particular.

2.6 The increase in wages is not explained by changes in lawyers' demographics

We use individual level wage data from the CPS to calculate the wage premium for lawyers and its evolution over time. The CPS reports rich demographic information that allows us to control for several possible determinants of wages. This permits asking whether changes in the composition of individuals employed as lawyers—e.g., gender, age, location—can explain the changes in relative wages that we document in the aggregate.[19]

[19]This does not include non-wage income, and wages top-coded; this will lead us to underestimate lawyers' wage premium, given that lawyers' wages are more likely to be top-coded than most other occupations. We deal with

Figure 4: The Wage Premium for Lawyers



(a) Lawyers and Non-Lawyers (b) Lawyers: Incumbents and New Entrants

Notes: The figure displays the estimates of the wage premia for lawyers and non-lawyers in legal services (in (a)), and the wage premia for lawyers above and under 30 years old (in (b)). Theses two figures show the coefficients, α_t and β_t, from estimating equation (2) for each three year period, t. The dependent variable is log(annual wages). Source: CPS March Annual Supplement, 1968–2017.

We estimate cross sectional regressions using the CPS March Annual Supplement in 1968–2017. We restrict the sample to full-time workers who worked at least 40 weeks within the year, of ages 18 to 65. In order to attain better precision we pool data for consecutive three-year periods and estimate the following regression, separately for each three-year period,

$$\ln w_{it} = \alpha_t \cdot \mathbb{1}_{it}^{\text{lawyer|legal}} + \beta_t \cdot \mathbb{1}_{it}^{\text{non-lawyer|legal}} + x_{it}'\gamma_t + \varepsilon_{it}, \tag{2}$$

where w is the annual wage.[20] Here $\mathbb{1}_{it}^{\text{lawyer|legal}}$ is a dummy variable for individuals employed as lawyers in legal services; $\mathbb{1}_{it}^{\text{non-lawyer|legal}}$ is a dummy for non-lawyers employed in legal services. The vector x_{it} includes dummies for education levels, race, urban, gender, marital status, Metropolitan Statistical Area (MSA), industry, and continuous experience and experience squared.[21] Importantly, the coefficients to these demographics can vary over time (γ_t), which captures, among other things, changes in returns to education.

Figure 4(a) shows the wage premia for lawyers (α_t) and non-lawyers (β_t) in legal services, for each three year period starting in t. The wage premium for lawyers increases from 0.1 to 0.4 over the period of 1970 to 1990. Neither changes in observable demographic characteristics of lawyers, nor changes in the overall skill premium explain the large increase in the relative wage of lawyers over the same period which we document in Figure 2. We note also that there is no trend for non-lawyers

top-coding as explained earlier in this section (multiplying by 1.5 through 2002).

[20] Results using weekly or hourly wages are similar. We drop observations with wages below the federal minimum wage.

[21] As in much of the literature, we use the age minus the implied number of years of education minus 6 to gauge potential labor market experience.

in legal services, consistent with the aggregate series, which uses a different data source.

Next, we investigate whether the trend in the lawyers' wage premium is consistent with barriers to entry, by separately estimating the wage premia for entrants and incumbents. Figure 4(b) shows the wage premia for lawyers under age 30 (entrants) and lawyers older than 30 (incumbents). The larger wage premium for older lawyers is consistent with the existence of industry rents, as well as with unobserved changes in fields of specialization from less lucrative to more lucrative fields. The younger lawyers do not see an increase in their wage premium until 1985, after which the wage premium for younger lawyers catches up with that of the older lawyers.[22] This pattern is not consistent with a simple story of entry barriers restricting supply and thus causing higher wages for lawyers. If that were the case, then we would have observed a *higher* wage premium for young lawyers, as incumbents compete for their talent.

Young lawyers' wage premium starts to increase when their share of employment among lawyers starts to decrease. We observe the share of young lawyers increase from 14% in 1967-69 to 32% in 1979-81, and then decrease, returning again to 14% in the 1994-1996 period (Appendix Table F12). Once the share of young lawyers goes back to "normal" in 1994, their wage premium is roughly indistinguishable from the older lawyers. This suggests the increase in entry (driven by observing the overall increase in industry wage premium) depresses the wage premium, until the industry reaches a new steady state.[23]

2.7 Taking stock

Workers in legal services roughly doubled their employment shares between 1970 and 1990. At the same time their relative wages increased and remain high after 1990. Simple economic theory implies that demand outstripped supply during this period. While supply partially caught up with demand in terms of quantities, the new equilibrium exhibits higher relative wages of lawyers and law firm partners. We illustrate that the demand shift was pervasive, exhibited within states and occupations, and not driven by changes in composition thereof. We also document organizational and compositional changes within legal services that are associated with the demand shift. We now turn to explaining these facts.

[22] This is consistent with Sander & Williams (1989), who do not find increases in starting salaries for lawyers in large and elite New York law firms before 1984–86, which is the end of their sample.

[23] An alternative explanation would be that younger lawyers are willing to accept a low initial wage in return for a high wage later in their career, consistent with complex rent sharing arrangements within law firms.

3 Demand for legal services

What drives demand for legal services? Fundamentally, the need for legal intermediation arises from asymmetric information regarding how the law regulates life. Lawyers within legal services have this knowledge, while most others do not. Therefore, demand stems from the scope of law: as laws cover more dimensions of life, the market for legal intermediation grows. In addition, complexity and uncertainty about outcomes also increase the demand for legal intermediation and its cost, as we illustrate in Section 3.1.

Our main explanation for the evolution of demand for legal services are changes in the legal and regulatory environment. These changes (1) eased entry into the justice system, and at the same time (2) increased uncertainty about outcomes once the judicial process starts, while (3) increasing sensitivity of outcomes to effort.[24]

If the scope of the law increases, then we expect to see an increase in litigation in dimensions in which the scope has increased. We collect three historical series on litigation: civil cases filed, criminal cases files, and civil appeal cases filed.[25] In Figure 5 we plot the intensity of civil and criminal litigation alongside the share of employment of legal services.[26] The match between civil litigation and employment share of legal services is striking. [27] In contrast, the evolution of criminal cases does not exhibit a trend. Figure 5 suggests that whatever drives the increase in demand for legal services, the mechanism likely operates through civil litigation or in conjunction with it.[28]

Next, we provide a brief theoretical framework to guide our discussion of the demand shift in legal services. We then introduce data on changes in the U.S. legal and regulatory environment, and explore the relationship between these historical series and the growth of employment and wages for lawyers, as well as with the composition.

[24]The complexity of the law is also an important outcome of these legislative acts and deregulation events, that we do not necessarily observe. An increase in the complexity of the law should also increase the demand for legal advice.

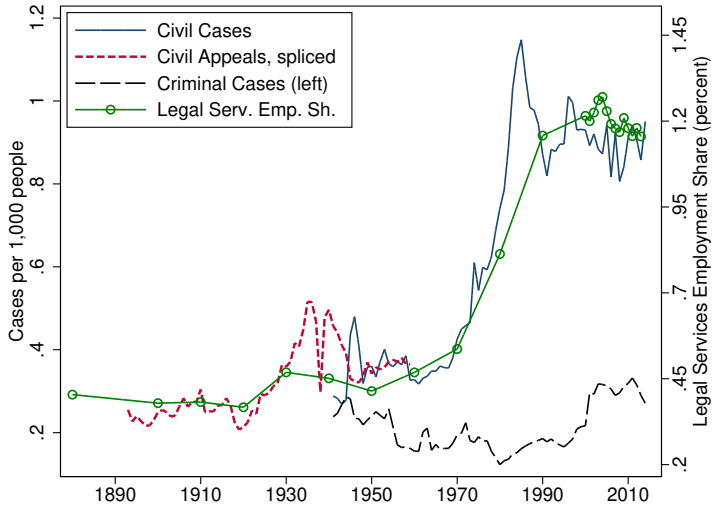
[25]Data on civil and criminal cases filed in U.S. district courts are from the Historical Statistics of the United States (HSUS) (1941–1999) and from the Administrative Office of the U.S. Courts (2000–2015). Data on civil appeal cases (1893–1989) are from HSUS. Historical Statistics of the United States: Carter et al. (2006). Data from the Administrative Office of the U.S. Courts downloaded from `http://www.uscourts.gov/`.

[26]We proportionally splice the Civil Appeals series so that its average value in 1950–1959 fits the average value of Civil Cases in the same period. Appendix Figure E5 displays the historical evolution for civil cases, civil appeals, and criminal cases separately.

[27]In fact, we find a stable proportion of lawyers per case throughout the entire sample. Appendix Figure E6 shows that the number of lawyers per case is relatively stable through the 1940-2010 period, on average 2.5 lawyers are employed for every federal case filed. While this ratio increases a bit over time, from 2.4 in 1960 to 2.86 in 2000, this trend is relatively weak compared with the changes in employment and litigation themselves. Although these are only federal cases, it is consistent with a fixed litigation technology over the sample.

[28]Table 2 below makes the same point in regression form, showing that there is a close relationship between the civil cases per capita and the employment share and relative wage of lawyers in legal services.

Figure 5: Litigation and Legal Services Employment Share



Notes: Civil cases in 1941–1999 and Civil appeals from 1893–1994 are sourced from HSUS while cases 2000–2015 are from the Administrative Office of the U.S. Courts. Cases are normalized by total population in units of 1,000 people. The Civil Appeals series is proportionally spliced so that the average value in 1950–1959 fits the average value of Civil Cases in the same period. Legal services employment share is the same as in Figure 1.

3.1 Theoretical framework

New legislation and regulatory change increased the domain of human interactions that fall within the scope of the law. This increases demand for legal intermediation and for lawyers at an extensive margin. If there is a conflict between agents, they are unlikely to be able to resolve it within the justice system without a law or regulation that governs the domain of their conflict. Once a law or regulation governs the domain of their conflict, then they can litigate.[29]

We now consider how the nature of new laws and uncertainty affect outcomes and effort (measured by how much one is willing to pay for legal services). Hadfield (2000) discusses how uncertainty about lawyer quality and about potential outcomes amplifies the wedge between the market price and the cost of legal intermediation. Fundamentally, due to the complexity and credence-good characteristics of the law, price will exceed cost when the legal work is not routine or standardized—and greater uncertainty amplifies this wedge. In addition, price will exceed cost because of the tournament characteristic of legal representation. When small differences in quality or effort lead to large differences in outcomes, the price is determined by the clients' willingness to pay, not the cost of delivering a service. Once again, uncertainty amplifies this wedge.

[29]If entering conflict is an endogenous decision, then the intensity and incidence of conflict may change in response to bringing that domain into the legal sphere. For example, if interrelations between neighbors in an apartment building become governed by some law, then neighbors may limit behavior that may lead to conflict, given the new law is clear enough and effectively enforced. But demand for legal services will increase nonetheless, because previously this domain was not "covered" by the law.

In order to frame the discussion, we use Hirshleifer & Osborne (2001), who model the interaction between plaintiffs (p) defendants (d) in a legal battle. We follow this model in order to fix ideas on the relationship between costs, effort and outcomes.[30] They define the "Litigation Success Function" (LSF) as follows:

$$\frac{\pi}{1-\pi} = \Big(\frac{L_p}{L_d}\Big)^{\alpha} \frac{Y}{1-Y}, \tag{3}$$

where π is the probability that the plaintiff (p) wins, L_p is the litigation effort of the plaintiff, L_d is the litigation effort of the defendant (d), α determines the sensitivity of the outcome to effort, and $Y \in (0,1)$ governs uncertainty about the merit of the plaintiff. If $Y = 1$ then the defendant is surely at fault, while if $Y = 0$, the defendant is surely not at fault. The cost of effort is specified as $C_i = \gamma L_i$. We think of C_i as payments to lawyers; this cost delivers C_i/γ units of effort in the legal battle. Lastly, the value of the lawsuit is a function of the probability of winning, the stakes J, and costs:

$$V_i = \pi J_i - C_i = \pi J_i - \gamma L_i\,,\ i \in \{p, d\}, \tag{4}$$

where the stakes for the plaintiff are assumed to be positive, $J_p = J > 0$, while the stakes for the defendant are negative, and we assume for simplicity $J_d = -J_p$.

If the two parties choose effort simultaneously to maximize their respective V_i, then the Nash equilibrium level of effort will be symmetric:

$$L = \alpha \frac{J}{\gamma} Y(1-Y). \tag{5}$$

Litigation effort increases with stakes J, sensitivity to effort α, and uncertainty about merit (as Y approaches 1/2). Costs will increase with any of these three changes, as $C = \gamma L$.

The model demonstrates that increased uncertainty in the outcome increases the optimal effort of lawyers, and therefore costs. It also shows that the sensitivity of outcomes to effort is an important parameter that guides the level of effort a lawyer exerts. Next, we show how changes in the U.S. legal and regulatory environment, starting in the mid-1960s, not only increased the scope of the law, but led to both increased uncertainty about outcomes and increased sensitivity of outcomes to effort. In what follows, we discuss the specific federal legislative acts that brought about changes in the legal environment in the United States. In Section 5 we discuss how some of these federal level changes affected U.S. states differentially.

[30] While the model is in terms of litigation, we stress that the logic also extends to transactional legal work (Hadfield, 2000). For example, when negotiating a joint venture agreement, lawyers of each side try to outmaneuver each other by limiting the disclosure of negative information and use of vague language, while exploiting ambiguities in the law.

3.2 Major legislation: Social regulation

Starting in the mid-1960s and continuing through the 1970s and 1980s the U.S. federal government passed a series of important acts, all of which significantly changed the legal environment. This legislation has been called "social regulation," and includes environmental laws, workplace and product safety rules, civil rights laws, and consumer protection laws. This is different from economic regulation, which we will discuss separately below. Social regulation at the federal level includes the Civil Rights Act of 1964, the Voting Rights Act of 1965, the National Environmental Policy Act (NEPA) of 1969, the Occupational Safety and Health Act (OSHA) of 1970, the Clean Water Act of 1972, and the Consumer Safety Act of 1972.[31]

We argue that these acts and the resulting regulations contributed to demand for legal services through the channels we describe above. For example, the Civil Rights Act, together with the Voting Rights Act of 1965, provided unprecedented protection against discrimination, and the ability to sue violations of equal opportunities and disenfranchisement.[32,33] In a nutshell, these acts increased the scope of the law and therefore—demand for legal services.

We analyze the composition of civil cases using case-level data, which is available from 1970 and on from the Federal Judicial Center's Integrated Database (IDB).[34] The case-level data include the name of the case, the date and district of filing, and the "nature of suit", which is the category used to classify civil cases filed in federal courts. Appendix Table F6 shows the composition of civil cases filed in 1970 and 1990, as well as the change between those two years. Civil Rights filings experience the largest increase; the Civil Rights Act was passed in 1964, and in the next year there were 1,123 cases related to Civil Rights filed in Federal Courts.[35] In 1970, 4,926 Civil Rights related cases were filed and by 1990 there were 18,689 filings, an increase of over 1500% from 1965.

Another leading example of how social regulation increased demand for legal intermediation is in environmental protection. By the 1960s the U.S. already had a long history of environmental

[31]The timing and cumulation of these acts are displayed in green in Appendix Figure E7; Appendix Table F5 includes the exact dates and names of all of the events.

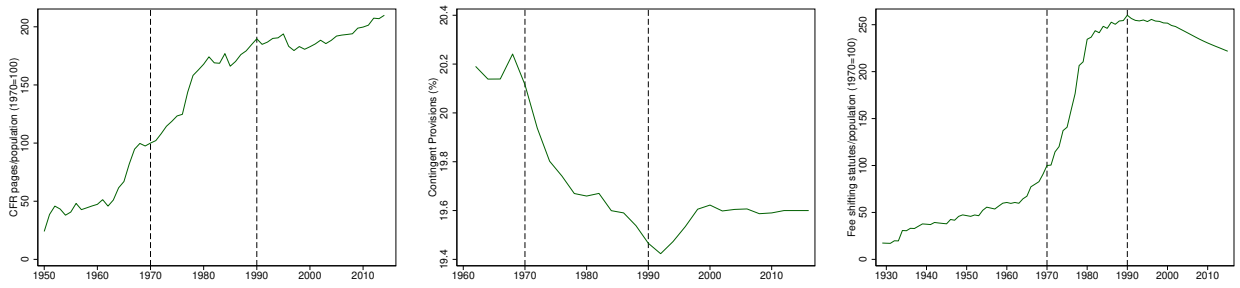
[32]The Civil Rights Act of 1964 outlawed discrimination based on race, color, religion, sex, or national origin. The Equal Employment Opportunity Commission was formed in 1965 to administer and enforce the discrimination laws put forth in the Civil Rights Act, as well as the Equal Pay Act of 1963 and the Age Discrimination in Employment Act of 1967. The Civil Rights Act of 1968 was meant to expand the Civil Rights Act of 1964, to prohibit housing discrimination and enable the enforcement of housing rights. The Equal Employment Opportunity Act of 1972 served to improve the effectiveness of the Civil Rights Act, and the Rehabilitation Act of 1973 extended equal rights to people with disabilities.

[33]As a by-product, the Civil Rights Act created the basis for class action lawsuits; see Miller (1978). Class action lawsuits are called this because they are about violation of rights of a class of people. This concept did not exist before the Civil Rights Act. See also Hensler (2001) and Miller (1979).

[34]The IDB data aggregate to exactly the level of the civil cases series used in Figure 5.

[35]This precedes the case-level data availability, we take this from an article on the effect of the Civil Rights Act on litigation from the US Courts website (`https://www.uscourts.gov/data-news/judiciary-news/2014/06/09/over-two-decades-civil-rights-cases-rise-27-percent`).

Figure 6: Regulation, Legislation, and Fee-shifting



(a) Pages of Federal Regulation (b) Contingencies in Legislation (c) Fee-shifting Statutes

Notes: Figure (a) shows the number of pages in the Code of Federal Regulations (CFR), divided by the U.S. population, where we set the value in 1970 to 100. The source for CFR pages is the Federal Register Statistics. Figure (b) shows the share of "contingent" legal provisions in state legislation. The source for is Ash et al. (2024), which measures contingent provisions from 1968-2016, and contingencies per sentence from 1962-2014. We splice the two series and use the spliced series before 1968 to extend the sample. Figure (c) shows the cumulative introduction of legislation with fee-shifting statutes, divided by the U.S. population, where we set the value in 1970 to 100. The source for the timing of fee-shifting statutes is Derfner & Wolf (2012). For each figure, we demark 1970 and 1990 with dashed vertical lines.

legislation, concerning preservation, multi-use management plans and public health. However, these were specific and never as strong and broad as the NEPA of 1969, which Liroff (1976) considered "the most sweeping environmental law ever enacted by a United States Congress."[36] Clearly, NEPA also increased the scope of the law.[37] This is evident in the Code of Federal Regulations (CFR). Title 40, introduced with the formation of the Environmental Protection Agency (EPA) in 1970, is dedicated to the protection of the environment. Currently, Title 40 of the CFR consists of 37 volumes and more than 1,200 pages of federal regulations. Figure 6(a) shows the overall evolution of the CFR over time. There is an over 160% increase in the length of regulatory code in the US between 1970 and 1990.

The NEPA was also written in broad language, leaving many open-ended issues to be clarified in courts. According to Johnson (2009), the NEPA was written more like "constitutional prose" (page 369) than like detailed lawmaking. Measuring the uncertainty of a law or regulation is difficult, but we have some data on this from Ash et al. (2024), who track the number of "contingent clauses" in state legislation. Contingent clauses are stipulations in the legal text, conditioning actions and outcomes and therefore reducing ambiguity in the interpretation of laws (Battigalli & Maggi, 2002;

[36]Shortly after passing the NEPA, the Environmental Protection Agency (EPA) was established, the tough and comprehensive Clean Water Act of 1972 was passed, followed by a burst of environmental legislation during the 1970s (Vig & Kraft (1990), appendix 1: "Major Federal Laws on the Environment, 1969–1989" and Vig & Kraft (2012)).

[37]Appendix Figure E13(a) shows that before the NEPA was passed there were no "Environmental Matters" cases. In 1972, soon after NEPA was passed (and the same year as the Clean Water Act), 126 federal civil cases were filed for "Environmental Matters." By 1992, 20 years later, that number had increased ten-fold to 1,252. We observe a similar pattern for cases filed for occupational health and safety matters in Appendix Figure E13(b). Before the OSHA was passed in 1970 this category of filings did not exist.

Ash et al., 2024). We use the share of contingent provisions in state legislation as our proxy for the uncertainty in the legislation—fewer contingencies imply more ambiguity in the law. Figure 6(b) shows that the share of contingencies in state legislation decreases by almost 5% between 1970 and 1990, in contrast to relative stability before 1970 and after the late 1990s.

Another characteristic of the new legislation was the accompanying fee-shifting provisions. Because the government lacks the capacity to enforce all of its own legislation, it enacts fee-shifting provisions—which require defendants to cover plaintiffs' legal fees—to incentivize private attorneys to bring cases on its behalf. We discuss these provisions in depth in Section 4. We use data from Derfner & Wolf (2012), who index each fee-shifting statute passed at the federal level, to show the timing of these statutes in Figure 6(c). In sum, Figure 6 shows an increase in legislation, regulation, and legislative uncertainty between 1970-1990.

3.3 Major legislation: Economic deregulation

While the link between new legislation and demand for legal services is clear, it may be less straightforward to think about economic *de*-regulation increasing demand. It has been argued that "deregulation" is a misnomer: deregulation does not imply that there is no public regulation of an industry; instead, it introduces a different legal framework (Kearney & Merrill, 1998), i.e., deregulation is a change in the regulatory environment. When an industry is regulated, the regulator's role is simple: to control entry, review prices, and control the type or amount of product or service offered. When the industry becomes deregulated the role of the regulator changes to maximizing competition between providers. However, deregulation does not imply *laissez faire*. Rather, deregulation involves a change from clear limits on actions to a regime with a new set of rules that dictate and characterize the permissible actions of competitors.

The deregulation regime in the U.S. began in the 1970s and persisted through the 1980s and early 1990s. The consensus at the time was that regulation of prices and entry was keeping prices artificially high, benefiting incumbents in regulated industries and not consumers. After deregulation, many legal scholars decried the pattern of "regulation by litigation," arguing that the practical outcome of deregulation is often more regulation, sometimes by way of litigation.[38]

Economic deregulation events at the federal level affected transportation (air, rail, trucking), telecommunications (cable television, phone), financial services (banking, securities) and utilities (electric, gas, oil) industries.[39] While the social regulation legislation discussed in the last subsection

[38] Friedman (1981) warned of this in the beginning of the deregulation regime. With the benefit of hindsight, Freyer (2010) summarizes the issue: "The deregulation movement partially limited private actions. Yet the unintentional result was to increase reliance upon private actions for enforcement of regulatory goals in business sectors where administrative or political oversight of business self-regulation was ineffective."

[39] Appendix Figure E7 captures the timing of these events.

was passed in the late 1960s through the mid-1970s, economic deregulation events followed through the 1970s and 1980s, after which they became much less frequent, with only the Telecommunications Act of 1996 and the Gramm-Leach-Bliley Act of 1999 taking place in the 1990s.[40] The federal regulatory regime, as measured by pages of regulations per-capita, only increases during this period of deregulation (Figure 6(a)).

In short, deregulation can increase both the number of regulations that need to be taken into account and the complexity of the regulatory environment, therefore increasing uncertainty over legal outcomes. In contrast, when there was a regulator approving prices of each firm, there was little confusion over what price or terms may be allowed. Consider the regulation of the airline industry. Prior to the passage of the Airline Deregulation Act of 1978, the airlines had to file their tariffs with the regulator (the Civil Aeronautics Board). A few years after the deregulation act, the Civil Aeronautics Board was abolished and the airlines were able to charge whatever rates they would like. In Appendix Figure E8 we track the number of cases litigated that involve an airline as one of the parties. The figure shows that there is a prolonged period of high litigation activity in the industry during the 5-10 years following deregulation; litigation activity doubled after the Airline Deregulation Act.[41] Deregulation did not bring an end to litigation in the industry, in fact it lead to a significant increase.

3.4 Historical regressions

Figure 6 suggests that the timing of major legislation and regulation that increased the scope of the law, while also increasing sensitivity of outcomes to effort, aligns with the structural change we observe in the legal services industry. We confirm this with a set of historical regressions.

We fit prediction regressions, where we regress future changes in the outcomes of interest on past changes in the historical regulation, fee-shifting, and litigation series:

$$\Delta y_t = \alpha + \beta \Delta x_{t-5} + \varepsilon_t, \tag{6}$$

where Δy_t are changes from t to $t+5$ and Δx_{t-5} are changes from $t-5$ to t. We compute Newey-West standard errors that allow for autocorrelation up to 5 lags and are robust to heteroskedasticity.[42]

[40] See Appendix Table F5 for a detailed timeline, with the act or event name, date, and affected industry.

[41] In one high profile example, *American Airlines v. Wolens* (1995) disputed whether airline practices constituted a breach of contract. Of course, there are still regulations that apply to airlines: there are 741 results when one searches 'airline' in the current version of the Code of Federal Regulations.

[42] The results are robust to using 4 or 6 year lags instead of 5 years (for both variables construction and standard error calculation).

Table 2: Employment Shares, Relative Wages, and Associate Lawyer Intensity

	Δ Employment Share$_t$						Δ Relative Wages$_t$						Δ Composition$_t$		
	Legal Services			Lawyers			Lawyers (with partners)			Lawyers (no partners)			Lawyers per Law Firm Partner		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Δ Federal Regulation	0.156*			0.404***			0.039			0.118			0.377**		
Pages Per Capita$_{t-5}$	(0.087)			(0.113)			(0.239)			(0.098)			(0.153)		
Δ Fee Shifting Statutes		0.763***			0.712***			0.484**			0.674***			0.356**	
Per Capita$_{t-5}$		(0.105)			(0.113)			(0.191)			(0.101)			(0.141)	
Δ Civil Cases			0.595***			0.545***			0.467***			0.674***			0.485***
Per Capita$_{t-5}$			(0.106)			(0.126)			(0.143)			(0.113)			(0.088)
Δ Top Marg. Tax Rate$_{t-5}$	-0.201	-0.150	-0.058	-0.300	-0.141	-0.057	-0.604***	-0.487*	-0.292	-0.380**	-0.259	0.019	-0.109	-0.041	-0.014
	(0.141)	(0.130)	(0.164)	(0.185)	(0.123)	(0.156)	(0.153)	(0.249)	(0.186)	(0.150)	(0.289)	(0.143)	(0.259)	(0.164)	(0.121)
Δ Top Corp. Tax Rate$_{t-5}$	0.118	-0.079	-0.237*	0.321**	-0.109	-0.258**	0.386**	0.104	-0.201	0.274**	-0.059	-0.482***	0.379*	-0.045	-0.077
	(0.125)	(0.088)	(0.139)	(0.128)	(0.131)	(0.124)	(0.153)	(0.309)	(0.252)	(0.118)	(0.226)	(0.176)	(0.207)	(0.130)	(0.066)
Δ Firms Per Capita$_{t-5}$	0.470***	0.025	0.068	0.480***	-0.005	0.035	0.349**	-0.083	-0.090	0.654***	-0.032	-0.046	0.095	-0.113	-0.113
	(0.090)	(0.089)	(0.117)	(0.100)	(0.087)	(0.109)	(0.157)	(0.103)	(0.086)	(0.106)	(0.149)	(0.126)	(0.130)	(0.103)	(0.102)
Δ Patent Application	-0.684***	0.016	0.005	-0.360***	0.123	0.108	-0.292	0.102	-0.042	-0.437***	0.103	-0.088	0.112	0.193	0.283**
Intensity$_{t-5}$	(0.142)	(0.114)	(0.205)	(0.101)	(0.083)	(0.167)	(0.211)	(0.215)	(0.188)	(0.113)	(0.106)	(0.118)	(0.115)	(0.160)	(0.132)
R-squared	0.73	0.67	0.47	0.64	0.59	0.41	0.39	0.43	0.46	0.63	0.58	0.67	0.17	0.14	0.22
Observations	54	91	91	54	91	91	54	69	69	54	69	69	54	80	80

Notes: This table reports the relationship between changes in outcomes for lawyers and for legal services and changes in variables that can potentially explain demand for lawyers in legal services, at the national level. The dependent variables are changes in employment shares, in relative wages, or in the ratio of associate lawyers to law firm partners from t to $t+5$. The predictive variables are in changes from $t-5$ to t. The sample period spans from 1893 to 2015 for employment, and 1929 to 2015 for relative wages. All standard errors are computed using Newey-West with up to five lags and are robust to heteroskedasticity. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 2 presents the results of estimating Equation (6). Each of the three historical series (federal regulation, fee-shifting, and civil cases) are positively correlated with our outcomes of interest, and these correlations are almost always statistically significant. In contrast, other control variables (i.e., measures of taxes, innovation, and economic activity) are not consistently associated with these outcomes. All of the series are normalized to have mean 0 and standard deviations of 1. For example, a 1 standard deviation increase in federal regulation predicts a 0.4 standard deviation increase in lawyers' employment shares over the next five years. The large effects on quantity of lawyers are consistent with our claim that changes in the legal environment made for a larger market for lawyers.

Changes in the number of fee-shifting statutes and civil cases per capita are strongly predictive of future changes in employment shares, relative wages, and composition of lawyers. However, the regulation series does not exhibit the same relationship with relative wages. Weaker results for regulation may be simply due the shorter sample, or the fact that pages per capita do not measure the complexity or uncertainty in the underlying regulatory text.

Our measure of litigation intensity, civil cases per capita (Figure 5), is arguably also an outcome of changes in the legal and regulatory environment. In Appendix Figure E16 we report the estimates of a version of equation (6), with our measure of litigation as the dependent variable. We find that fee-shifting statutes are strongly correlated with future litigation intensity: a one standard deviation increase in fee-shifting statutes is followed by a 0.6 standard deviation increase in litigation intensity over the next five years. None of the other potential explanatory variables are correlated with changes in litigation per capita, over the period of 1913 to 2013.

While we are cautious in avoiding claims of causality, the robust relationship between these series provide strong suggestive evidence that changes in the legal and regulatory environment from the mid-1960s through the 1980s led to a major demand shift for legal services. Next, we exploit variation across statutes and states to provide further evidence of this relationship.

4 Government Capacity and the Effect of Fee-Shifting

When Congress enacted major social regulation acts, there was a concern about the government's capacity to enforce them. In order to address this, Congress enacted "fee-shifting" statutes, which allow lawyers to collect fees from the losing party if they prevail in court. This is in contrast to the status quo in the United States, the so-called "American Rule," which dictates that lawyer fees are to be only paid by the party that hires the lawyer (Vargo, 1992). The typical fee-shifting statute stipulates that the plaintiff's lawyer will be paid by the defendant if the plaintiff wins the case.

The legal scholarship has identified three primary motivations for fee-shifting provisions. First,

without fee-shifting, the private returns to litigation are systematically below the social returns: a plaintiff who bears the full cost of enforcement captures only a fraction of the deterrence benefit, which accrues broadly to all potential victims of a statutory violation. By transferring attorneys' fees to the losing defendant, fee-shifting statutes realign private and social incentives, inducing a level of enforcement closer to the social optimum (Coffee, 1986). Second, fee-shifting addresses a structural undersupply of enforcement. Fee-shifting corrects this by decoupling the attorney's compensation from the size of the damages award, thereby expanding the set of economically viable claims (Carroll, 2023). Third, these provisions respond to an asymmetry in litigation resources between repeat-player defendants—typically well-resourced firms or government entities—and one-shot individual plaintiffs. This asymmetry would otherwise systematically suppress enforcement even where the underlying merits are strong. Farhang (2010) documents a legislative pattern consistent with the theory that fee-shifting functions not merely as a supplement to public enforcement, but as its primary substitute in many statutory domains.

One of the most notable examples of a fee-shifting statute comes from the Civil Rights Attorney's Fees Award Act of 1976, which allows the federal court to award attorney fees from the losing party to the lawyer of the plaintiff in civil rights cases. The intention was to create an incentive for attorneys to bring civil rights cases on behalf of plaintiffs. Some in Congress were against the bill, calling it "a bonanza to the legal profession" (Diamond, 1983).

Between 1970 and 1990 the number of fee-shifting statutes triples—from 58 statutes to 184. The majority of the increase during this time period is due to statutes relating to economic regulation, consumer protection, environmental protection, civil rights or employment—i.e., in "public interest litigation."[43]

4.1 Fee-Shifting and Litigation Activity

We document the relationship between fee-shifting and and litigation by exploiting the differential timing of fee-shifting statutes and the legislation to which they are applied. We identify two "events" to study, for which the attorney fees amendment follows years after the original legislation was enacted. This allows for an event study analysis; we track the evolution of cases filed under a nature of suit that will become treated, versus cases untreated by changes in fee-shifting, before and after the provision was introduced.

First, we study the introduction of fee-shifting for legislation in trademarks. The Lanham Act was passed in 1946, and serves to govern trademark law in the United States. It allows the owners of federally registered trademarks to pursue civil remedies for trademark infringement and dilution.

[43] We report more statistics on fee-shifting statues by type in Appendix Table F9 and Figure E9.

In July 1975, an attorney fees provision was added to Lanham Act, in order to allow fee-shifting in "exceptional cases".[44] We estimate the effect of the 1975 Lanham Act attorney fee provision on trademark litigation using the following event study specification:

$$Y_{dnt} = \sum_{\substack{\tau=-6 \\ \tau\neq -1}}^{12} \beta_\tau \left(\text{Trademark}_n \times \mathbb{1}[t = 1975 + \tau]\right) + \gamma_d + \delta_t + \theta_n + \epsilon_{dnt}, \tag{7}$$

where Y_{dnt} is the number of cases filed in district d, with nature of suit code n, in year t, Trademark_n is an indicator for trademark cases (nature of suit 840), and $\mathbb{1}[t = 1975 + \tau]$ is an indicator for year t being τ periods relative to treatment. We include fixed effects for the district, γ_d, year, δ_t, and nature of suit, θ_n. The coefficients of interest are $\{\beta_\tau\}_{\tau=-k}^{m}$, which measure the difference in case filings between trademark cases and control cases τ years relative to the addition of fee-shifting. We use the period 1969-1987; six years before the provision and twelve years after.[45] We cluster standard errors at the district level, the level at which the cases originate.

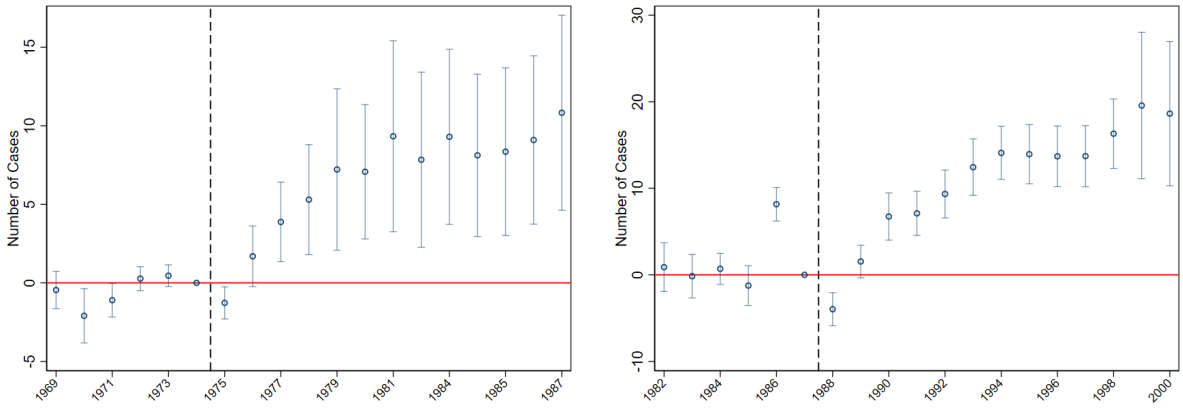
Our analysis compares the number of cases brought under the Lanham Act, to other property rights cases that *always* allow fee-shifting as well as statutes and contracts cases that *never* allow fee-shifting. Specifically, we include cases brought under nature of suit 830 (patents), and 850 (securities), as well as contract cases (nature of suits 110, 120, 130, 160). Patent law allows fee-shifting for the whole period, while securities and contract law do not, but involve similar private civil litigation. Figure 7(a) shows the results—trademark litigation more than doubles after the addition of the fee-shifting statute. The average district saw a caseload of 5.8 cases per year before 1975—this increases in the first five years after the provision was added and then stabilizes around 8-10 additional cases post-1980. Given the number of districts across the U.S., this is an increase of about 900 cases per year.

We apply the same event study framework to analyze the Fair Housing Amendments Act of 1988, which substantially strengthened existing fee-shifting provisions for housing discrimination cases. While the original 1968 Fair Housing Act authorized attorney fees, the 1988 amendments enhanced enforcement by: (1) removing the "ability to pay" limitation on fee awards, (2) making the United States explicitly liable for fees, (3) extending the statute of limitations from 180 days to two years, and (4) establishing administrative enforcement with mandatory attorney fee awards. We estimate equation 7 with "Civil Rights: Housing" cases (nature of suit 443) as the treatment group and 1988 as the event year—studying the period from 1982 to 1998. We use two related

[44] This was in response to the *Fleischmann Distilling Corp v. Maier Brewing Co.* (1967) Supreme Court Case, which ruled that attorney's fees could not be awarded in cases under the Lanham Act without explicit statutory authorization.

[45] Our data starts in 1970, but we also observe the filing date. Therefore we have the majority of cases filed in 1969 in the 1970+ caseload data.

Figure 7: The Effect of Fee-Shifting on Litigation



(a) Fee-Shifting Introduced for the Lanham Act (1975) (b) Fee-Shifting Strengthened for the Fair Housing Act (1988)

Notes: This figure shows the event study estimates (equation 7) for the effect of fee-shifting provisions on the number of cases. We aggregate the number of cases by district-nature of suit-year, and there are 95 districts across the U.S. Standard errors are clustered at the district level. For the Lanham act we use nature of suit 830 (patent), 890 (securities), and 110, 120, 130, 160 (contract law) as controls. For the Fair Housing Act we use nature of suits 441 and 444 (civil rights: voting and welfare), along with the contract law cases. The source of the data is the Federal Judicial Center Integrated Database.

Civil Rights nature of suits (441, 444) that were not treated by the Housing Act, but did allow fee-shifting due to the 1976 Civil Rights Attorney Act.[46] These cases should be affected by similar trends in civil rights litigation, but did not receive the strengthened fee-shifting provisions in 1988. We also use the contract cases as a control, which are a stable source of litigation throughout the sample and are never subject to fee-shifting.

Figure 7(b) shows the results. Housing litigation increases in the first five years following the amendment, reaching an average of about 15 additional cases per district-year in the 1995-2000 period. Across districts, this would aggregate to roughly 1,500 additional cases per year. Figure 7(b) shows that there seems to be more cases in 1986, before the amendment was passed. This could be the result of anticipation—similar legislation was introduced unsuccessfully in 1983 (S.1220) and 1986 (H.R.4119) before final passage in 1988. The fee-shifting amendments finally took effect in March of 1989.

For robustness, we show that the results are stable to the choice of control group. For the trademark cases, either using only other property rights cases (patent law, which was always treated by fee-shifting) or only using the untreated and stable contract cases does not lead to changes in the

[46]The 1976 Civil Rights Attorney Act is probably one of the most prominent examples of fee-shifting being added to existing legislation. However, because the Civil Rights Act was only introduced 10 years before, we are not in a stable litigation activity period before fee-shifting was introduced. The raw data suggests that fee-shifting certainly accelerated civil rights cases post-1976, but we struggle to find a suitable control group.

results (Appendix Figure E14). Similarly, the results for the Fair Housing Act Amendment does not change if we use only the civil rights cases, or only the contract cases as a control (Appendix Figure E15).

4.2 Fee-Shifting and Effort

In order to understand how fee-shifting could affects lawyers' effort, and therefore costs, we extend Hirshleifer & Osborne (2001). The only change to the model setup discussed in Section 3.1 is that the values of the lawsuits for each side change. Hirshleifer & Osborne (2001) solve the model under the so-called "American rule", where each party is assumed responsible for its own legal costs regardless of the outcome. "Fee-shifting" statutes are deviations of the American Rule; if the defendant loses, they pay the legal fees of the plaintiff.

The plaintiff chooses L_p to maximize

$$V_p = \pi J - (1 - \pi)\,\gamma L_p, \tag{8}$$

where the plaintiff pays the costs only if she loses, with probability $1 - \pi$, and π is still given by equation (3). The defendant chooses L_d to maximize

$$V_d = \pi(-J) - \gamma L_d - \pi\gamma L_p, \tag{9}$$

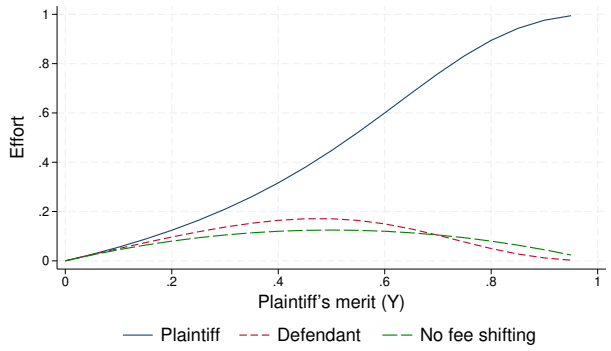
where the defendant always pays her fees, as well as the fees of the plaintiff if the plaintiff wins, with probability π. The equilibrium is characterized by an implicit function (See Appendix C).

We take a numerical approach, and assume α, the sensitivity of the outcome to effort, is 0.5. We find that fee-shifting leads to increases in total costs and greater payments to lawyers compared to the version of the model without fee-shifting. Figure 8 shows the results of this exercise for effort, as we vary the merit of the plaintiff, Y. The effort of the plaintiff is always greater than in the case without fee-shifting, by a large margin. The defendant's effort is also higher, unless the plaintiff's merit is very high. Because fee-shifting increases the effort and costs of the plaintiff more than for the defendant, it therefore tilts the probability of winning towards the plaintiff (Appendix Figure C1).[47] As costs are a function of effort, total costs increase substantially, due to the increased effort of the plaintiff (Appendix Figure C5).

By increasing predicted payments to lawyers, not only did the fee-shifting statutes create an incentive for private sector lawyers to represent plaintiffs in litigation, they also increased total

[47] On net, expected costs for the plaintiff ($(1 - \pi)\,\gamma L_p$) are lower, while they are higher for the defendant, except when the plaintiff's merit is very high. Defendants in social regulation litigation with fee-shifting statutes are sometimes large corporations with deep pockets, who are being sued by individuals who do not have the means to hire a lawyer of the same quality as the corporation, if at all. Therefore, the lawyers that represent the plaintiffs would only be paid if they win the case. We ignore this complication in our analysis of the model.

Figure 8: Lawyer Effort with and without Fee-shifting



Notes: This figure shows the equilibrium effort of plaintiff (blue solid line) and defendants (red dashed line) in the Hirshleifer & Osborne (2001) model that we extended to add fee-shifting. The equilibrium effort without fee-shifting is symmetric, so the effort for both the plaintiff and defendant is shown with the green dashed line. The figure shows the effort of the plaintiff increasing substantially in merit. Effort is normalized to the stakes divided by the cost of effort (J/γ). The sensitivity of the outcome to effort, α is assumed at 0.5. More details on the model and further results of the numerical exercise are in Appendix C.

costs, including on lawyers of the defendants.

5 State-level variation

In this section we try to identify the effects of changes in the legal and regulatory environment at the state level. To do this we exploit state-level variation in predicted effects (potential exposure) due to federal regulation, and then exploit cross-section and time-series variation in state-level regulations.

5.1 Exposure to federal legislation: The case of Washington, D.C.

If federal legislation and deregulation acts were important drivers of the increase in the demand for legal services, then we would expect to see a differential effect in locations with more exposure to the federal government. This naturally leads us to compare the change in legal services and lawyers' employment shares in Washington, D.C. to those shares' evolution in other states. All states experienced an increase in legal services' employment share between 1970 and 1990: the mean increase was 0.57 percentage points with a standard deviation of 0.42. In Washington, D.C. the increase of legal services' employment share between 1970 and 1990 was 3.33 percentage points, over five times the average increase (Appendix Figure E10. In the aggregate, the employment share of legal services increased from 0.53% to 1.15% from 1970 to 1990. In Washington, D.C. the legal employment share increased from 0.82% to 4.15%. In this period of major federal social regulation and deregulation, lawyers were attracted to the federal capital in greater intensity than to any

other state, by a wide margin.

The significant increase in lawyers and legal employment in Washington D.C. does not include lawyers in government. In 1970, there were roughly equal numbers of lawyers in government and the private sector in Washington.[48] By 1990, there were 2.3 lawyers in the private sector for every lawyer in government (Figure E10(c)).[49] Of course, employment in Washington, D.C. makes up a tiny fraction of total U.S. employment, so this does not account for much of the aggregate increase in the shares of legal services and of lawyers. However, the differential effect in D.C. is suggestive of the role of federal legislation in driving demand for lawyers. Moreover, fee-shifting statutes that accompanied the federal legislation had, by design, the effect of increasing the demand for private sector lawyers, instead of expanding the employment of lawyers in government.

5.2 Effects of federal legislation at the state-level

We focus on federal regulation concerning discrimination and the environment, because of their legislative significance and because we can measure variation in state propensities to respond.

Exposure to Civil Rights Act. We fit prediction regressions, in which we measure a state's propensity to respond to new federal legislation due to the enforcement of civil rights protections with the change in the share of state employment that is black. The regression takes the following form:

$$\Delta \left(\frac{\text{lawyers in legal services}}{\text{employment}} \right)_{s,t+d} = \alpha_s + \beta \Delta (\text{black employment share})_{s,t} \times \text{Jim Crow}_s + \varepsilon_{s,t}, \quad (10)$$

where $\Delta X_{s,t+d}$ is the change in X_s from t to $t+d$, and $d = 10$ or 20 years. We interact the change in black employment share with a dummy for whether the state is a "Jim Crow" state (as defined by states that segregated schools by law prior to Brown v. Board of Education).[50] We include this interaction in order to control for the entrenched racism and history of segregation in these states that leads to differential trends in black employment and differential response to civil rights legislation (Johnson & Robbins, 2001; Hornbeck & Naidu, 2014). This regression is run for $t \geq 1960$, and we include state fixed effects, α_s, to absorb state-specific trends. Because the civil rights legislation was passed in the late 1960s and early 1970s we do not expect levels or changes in black employment shares to predict changes in legal activity before the early 1970s.

[48] Per the 1970 Census, there were 4,800 lawyers employed in government and 4,500 lawyers employed in the private sector, of which 3,900 were in legal services and 600 in industry.

[49] Per the 1990 Census, there were 3,941 lawyers in government in D.C., 7,604 in legal services, and 1,412 in industry.

[50] Historically, all states had some "Jim Crow" laws. This definition aims to capture states with more entrenched segregation that may be differentially treated by the Civil Rights Act. The list of states that fall under this definition are AL, AR, DC, DE, FL, GA, KY, LA, MD, MO, MS, NC, OK, SC, TN, TX, VA and WV.

Table 3: State-level Demand for Lawyers in Legal Services

Dependent variable:	Δ lawyers in legal services share of state employment, t to $t+d$								
Unit for difference d:	10 years	20 years	10 years	20 years	10 years	10 years	10 years	10 years	10 years
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Federal legislation:									
Δ Black employment share$_{t-d}$	0.032**	0.030***							
	(0.014)	(0.010)							
Δ Black Emp$_{t-d}$ × Jim Crow$_s$	-.024	-.016							
	(0.018)	(0.014)							
Δ Dirty industry GDP share$_{t-d}$			0.008***	0.023***					
			(0.003)	(0.004)					
State legislation:									
Δ Unilateral Divorce with Separation$_{t-d}$					0.102***				0.086***
					(0.017)				(0.016)
Δ No-Fault Unilateral Divorce$_{t-d}$						0.101***			0.037
						(0.025)			(0.024)
Δ Wrongful Discharge$_{t-d}$							0.028*		0.002
							(0.014)		(0.014)
Δ Unrestricted Intrastate Branching$_{t-d}$								0.050*	0.053**
								(0.027)	(0.027)
R-squared	0.04	0.12	0.08	0.24	0.06	0.04	0.01	0.02	0.08
Observations	253	200	204	102	353	353	353	353	353
State fixed effects	×	×	×	×	×	×	×	×	×
Years (t)	1960-2000	1960-1990	1970-2000	1980-1990	1940-2000	1940-2000	1940-2000	1940-2000	1940-2000
Mean Dependent Variable	0.052	0.126	0.063	0.061	0.033	0.033	0.033	0.033	0.033

Notes: This table presents the results of bilateral regression of pre-period differences on next period differences. The sample for each regression is noted in the row labeled "Years". Difference on difference regressions take the following form: $\Delta(\text{lawyers in legal services/total employment})_{s,t} = \alpha + \beta\Delta x_{s,t-d} + \epsilon_{s,t}$, where s is a state, t is a year and the unit for the difference d is 10 or 20 years, depending on the row's specification (labeled "unit for difference"). For example, when $d = 10$, $\Delta(\text{lawyers in legal services/total employment})_{s,t} = (\text{lawyers in legal services/total employment})_{s,t+10} - (\text{lawyers in legal services/total employment})_{s,t}$. The right hand side variable is the difference in the previous 10 years, which, in the case of state legislation, is equal to 1 in the decades in which the legislation was enacted, and 0 in all other decades. Source of state employment data is the U.S. Censuses, GDP data is from the Bureau of Economic Analysis, and state-level legislation dates from Mengle (1990), Black & Strahan (2001), Friedberg (1998), Vlosky & Monroe (2002), and Autor et al. (2006). Shares are in percents. Within R-squared are reported. * p< 0.1, ** p<0.05, *** p<0.01.

Columns 1 and 2 in Table 3 display the results. When state black employment share increases by 1 percentage point, the change in lawyers employment share increases by 0.032 percentage points in the next 10 years, and by 0.030 percentage points in the next 20 years. These results suggest a strong association between the potential impact of federal legislation to limit race-based discrimination and the growth of legal activity in that state. The average change in lawyers' employment change in this sample is 0.063 or 0.061, respectively. In this context, our regressions suggest large effects.

Exposure to Environmental Regulation. . Environmental regulation spanned the same period as Civil Rights, with amendments to the Clean Air Act in 1966 and 1970, the National Environmental Policy Act of 1969, the establishment of the EPA in 1970 and the Clean Water Act in 1972. We measure a state's propensity to respond to tougher federal protection of the environment and pollution regulation by the share of the state's GDP in "dirty industries".[51] We fit prediction regressions similar to Equation 10, where we fit changes in the state employment share of lawyers in legal services to pre-period changes in the state GDP share of "dirty industries":

$$\Delta \left(\frac{\text{lawyers in legal services}}{\text{employment}} \right)_{s,t-d} = \alpha_s + \beta \Delta (\text{dirty industry GDP share})_{s,t} + \varepsilon_{s,t}. \tag{11}$$

Our sample starts in 1970, due to data limitations on state-industry level GDP before 1963.

Columns 3 and 4 in Table 3 present the results. The estimates imply that a one percentage point increase in the change in dirty industry GDP share of state s in the previous 10 years predicts a 0.008 percentage point increase in the change in lawyers' employment share in the next 10 years. The effect is more than double (0.023 percent points) for the 20 year difference. Once again, these are large effects, compared to the average change in lawyers' employment change in this sample.

Table 4 provides some evidence for the mechanism by which federal legislation increases state-level employment in legal services. Here, we fit the same regressions as Columns (1)-(4) in Table 3, but use changes in federal case filings as the dependent variable. Each federal civil case is filed in a district court, which corresponds to a state. Therefore, we can track federal civil litigation filed by state, for both "Civil Rights" and "Environmental Matters". Table 4 reports a strong relationship between federal legislation "exposure" and federal litigation. Changes in black employment share are followed by substantial increases in civil rights litigation, and changes in dirty industry GDP shares are followed by substantial increases in environmental litigation. This is an additional piece of evidence for the link between legislation, litigation, and the demand for lawyers; states that are

[51] These industries are pollution-intensive: Metal Mining, Coal Mining, Oil and Gas Extraction, Paper and Allied Products, Chemicals and Allied Products, Petroleum Refining and Related Industries, and Primary Metal Industries. This includes SIC Codes 10, 12, 13, 26, 28, 29, 33. Data on industry GDP in each state is from the BEA. The BEA state GDP series for industries, defined by SIC code, are available from 1963 to 1997. We use 1963 and 1997 data for 1960 and 2000 respectively, in order to allow for more observations on a decennial basis.

more exposed to federal regulations experience increases in the litigation related to this legislation and increases in the employment share of lawyers.

Table 4: Federal Litigation in the States

	Δ Civil Rights Litigation$_{s,t+d}$			Δ Environmental Litigation$_{s,t+d}$	
	$d = 10$	$d = 20$	$d = 10$	$d = 10$	$d = 20$
Δ Black employment share$_{t-d}$	1.860	1.081**	2.187**		
	(1.230)	(0.540)	(0.939)		
Δ Black emp.$_{t-d}$ $\times$ Jim Crow$_s$			-0.338		
			(1.586)		
Δ Dirty industry GDP share$_{t-d}$				0.389	1.877*
				(0.237)	(1.047)
Within R-squared	0.15	0.30	0.15	0.25	0.50
Observations	204	151	204	255	102
Mean Dependent Variable	2.003	5.515	2.003	0.041	-0.518

Notes: This table presents the results of bilateral regression of pre-period differences on next period differences. The outcome variable is the change in per-capita (100,000) civil rights litigation (Columns (1)-(3)) and per-capita (100,000) environmental litigation (Columns (4)-(5)). Cases are assigned to the state of the district court where they are filed. Source for case data is the Federal Judicial Center Integrated Database.

5.3 State-level legislation and regulation

We now turn to study legislation that lowered the barriers for unilateral divorce, legislation to improve protection of employees, and deregulation in the banking industry. Mirroring our discussion of legislation at the federal level, all of these changes are expected to increase demand for legal intermediation and can lead to litigation. Since the timing of these changes varies across U.S. states, we can study their effects in a panel regression.

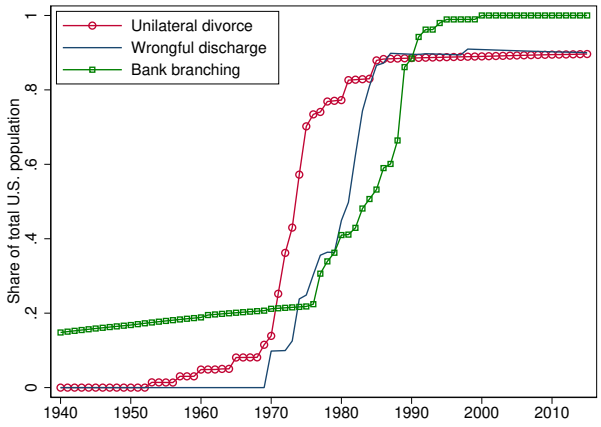
Unilateral divorce became easier over time differentially across states starting in the late 1960s, and throughout the 1970s and early 1980s. There is evidence that the divorce rate increased as a result, at least immediately following this legislation (Friedberg, 1998; Wolfers, 2006). This would increase demand for lawyers due to the nature of the divorce procedure. We use data on the timing of the adoption of unilateral divorce laws to test whether lowering the barriers to divorce is associated with an increase in legal activity, as more couples elected to divorce.[52]

Next, we consider state-level employment protections. Wrongful discharge laws limit the ability of an employer to fire an employee. We use data on state enactment of wrongful discharge legislation

[52]We use data from Friedberg (1998) and Vlosky & Monroe (2002). We look at two types of unilateral divorce, unilateral divorce conditional on separation, and no-fault unilateral divorce. No-fault unilateral divorce is the most lenient type of divorce law. Unilateral divorce with separation requires a couple to be legally separated for some period of time (that varies across states) before they are able to obtain a divorce. We do not take a stand on whether one type is legally more intensive than another, as we look at the *short-run effect* of the change in these divorce regimes, which both remove barriers to getting a divorce, relative to the state's previous policy.

from Autor et al. (2006) to study whether giving employees more rights, which often come in the form of legal recourse, had an effect on legal activity in the state.[53]

Figure 9: State-Level Legislation and Regulation



Notes: This figure displays the share of U.S. population living in states that deregulated divorce, passed wrongful discharge laws, and deregulated bank branching. Deregulation of divorce is given by unilateral divorce conditional on separation. Wrongful discharge captures any such law. Bank branching deregulation is given by allowing intrastate bank branching by mergers and acquisitions. Dates of no-fault divorce "deregulation" by state are from Friedberg (1998) and Vlosky & Monroe (2002). Dates of wrongful-discharge laws by state are from Autor et al. (2006). Dates of bank branching deregulation are from Mengle (1990) and Black & Strahan (2001).

States also played a role in bank deregulation. Before the mid-1970s banks in most states were restricted in which markets they could operate, both within and across states. Banking deregulation allowed banks to expand within, and, eventually, across states. This deregulation could be associated with more legal activity, at least in the short-run, as banks began to merge and competition increased. We use data on state-level bank deregulation (Mengle, 1990; Black & Strahan, 2001) to study the relationship between legal activity and bank branching deregulation.

Figure 9 displays the proliferation of no-fault divorce, wrongful discharge laws, and banking regulation. All of these important legislative waves occurred mostly in the 1970s and ended by 1990.[54]

As in the previous section, the state legislation change regressions take the following form:

$$\Delta \left(\frac{\text{lawyers in legal services}}{\text{employment}} \right)_{s,t} = \alpha_s + \beta \Delta(\text{legislation})_{s,t-d} + \varepsilon_{s,t} \ , \tag{12}$$

where $\Delta X_{s,t}$ and $\Delta X_{s,t-d}$ are defined above and state fixed effect α_s absorb state-specific trends. Here $\Delta(\text{legislation})_{s,t}$ takes the value 1 if a state legislation was passed (or "turned on") in the

[53]Similarly, wrongful-discharge laws created scope for litigation. Autor et al. (2006) argue that wrongful-discharge laws modestly reduced employment.

[54]Figure E11 display the proliferation across U.S. states over time of types of no-fault divorce "deregulation", wrongful-discharge laws, and bank branching deregulation, respectively.

previous decade, and zero if there was no change (there are no repeals, so there are no incidences of -1).[55]

Columns (5) through (9) in Table 3 present the results. States that pass legislation to allow unilateral divorce with separation in the past decade experience a 0.102 percentage point increase in the change in the employment share of lawyers in the state in the next decade. The effect for no-fault unilateral divorce is similar, at 0.101 percentage points.[56] The passage of wrongful discharge legislation at the state-level is associated with a 0.028 percentage point increase in the change of lawyers' employment share in the next decade. The switch to allow unrestricted intrastate banking in the past decade predicts a 0.050 increase in the change in the employment share of lawyers in the state in the next decade.[57] With the average of the dependent variable in these regressions being 0.033, these correlations are economically significant. The divorce change predicts an effect 3 times above the mean change over the 1940-2000 sample.[58,59] Table F10 shows that state-level deregulation of divorce is associated with an increase in lawyers practicing domestic law in the state.[60]

This state-level regression analysis provides further evidence of a relationship between changes in the legal and regulatory environment in the 1970s and 1980s and the sharp increase in legal activity over the same period. Next, we review other potential explanations—which we do not find evidence for—that could explain a rise in demand for legal services.

6 Alternative explanations

Other factors may have contributed to the rise in demand for legal services. We explore the potential importance of technology, economic activity, innovation, supply restrictions, changes in

[55]Figure E12 in the appendix reports the years of deregulation events. This demonstrates that the timing of divorce deregulation, wrongful discharge regulation and bank branching deregulation took place in three distinct waves: the 1970s, early 1980s and late 1980s/early 1990s, respectively. This motivates studying these types of legislation separately. On the other hand, the timing makes identification difficult, as legislation events for a specific type often take place in several states at the same time.

[56]Evidence in Wolfers (2006) suggests that the effect on divorce deregulation on divorce rates is short run, so we do not expect to find strong effects in regressions like (12) when $d = 20$. Untabulated regressions confirm this conjuncture.

[57]Note that unrestricted intrastate banking includes intrastate mergers and acquisitions across banks, which we conjecture had a large effect on demand for legal intermediation.

[58]The average of the dependent variable in columns 1 and 2 is much larger than in the other columns because the sample only considers the 1970–1980 and 1970–1990 changes, respectively. These are the decades of the large increases in employment shares of lawyers. Columns (3)–(9) consider other decennial changes, where there are not large increases in the dependent variable.

[59]The mean of the dependent variable from 1940-2000 is a little deceptive, as it masks the large change in the middle of the sample. The average change for the 1970 and 1980 decades is 0.125. This would imply a divorce "effect" that is 80% of the mean.

[60]At this point, we only have fields of specialization between 1972-1992, but are working to digitize the data before 1972.

lawyer quality, changes in industry standards, gender, and political influence. Overall, we find no evidence supporting these alternative explanations.

Technology. Legal services is an information-intensive industry, thus the ICT revolution may have contributed to its expansion and internal organization. Using Fixed Assets tables from the BEA, we compute the relative ICT intensity in legal services versus the rest of the private sector. Appendix Figure E17(a) displays this measure, where we see that legal services increased their relative ICT intensity staring only in 1995, whereas beforehand there is no trend. This implies that ICT cannot be an important factor driving demand for legal services.[61]

Industry composition. We ask whether changes in the composition of industries or in their legal services intensity can help explain the increase in the observed share of legal services. In order to assess this, we use a simple accounting model that attributes industry output to demand for final goods (including net exports) coming from households, the government and investment via input-output linkages (Leontief, 1936). We fix the input structure and value-added intensities of the economy in 1970 and apply this to final goods demand in 1990. This gives us counterfactual shares in GDP that are driven by changes in industrial composition.[62]

We apply this exercise to data from the BEA Industry Accounts. The GDP share of legal services increases by 0.7 percent points from 1970 (0.7 percent) to 1990 (1.4 percent). We find that change in industry composition account for only 23% of increase in legal services share in GDP. The remainder is driven by within-industry increases in intensity of legal intermediation.

Using the same data and methodology we study changes in the composition of users (or "destinations") of legal services as inputs. We find that overall, industries increase their share of legal services output by only 1.3 percent points from 1970 (56.4%) to 1990, while the share of legal services paid directly by households and the government drops by 1.3 percent points.[63] The increase in industry as buyers of legal services explains little of the rise in legal services value added share, in contrast to claims by Sander & Williams (1989) and by Hadfield (2000).

Firm density. We consider the number of firms as a potential explanation for demand for legal services. Given the overall size of the economy, when the number of firms increases so may demand for legal services, because more activity occurs between firms, rather than within them.[64] We

[61] According to this measure, legal services before 1995 are roughly as ICT intensive as the rest of the private sector until 1995.

[62] See Appendix D for more details.

[63] Industries that increased most include retail, finance, insurance, real estate, health, food services, computers and electronics, chemicals.

[64] Economic activity that occurs within the boundary of firms does not require legal intermediation; this is part of the Coasian rationale for the existence of firms, which can economize on such transaction costs.

use data from U.S. Census Business Dynamics Statistics (BDS) (1977–2014) and from the HSUS (1857–1983) on the number of firms and normalize this by total population. Appendix Figure E17(b) displays the number of firms per capita. Overall, after the secular increase in the number of firms per capita in 1857–1880, we do not document a pattern that could help explain the rise in demand for legal services. We also do not find evidence of a persistent correlation between firms per capita and the legal services outcomes of interest in Table 2. Even if the number of firms does not correspond to our indicators of legal services, market structure might. However, recent figures from Kwon et al. (2024) imply that corporate concentration has steadily increased over the last 100 years, with no change in trend starting around 1970.

Innovation. Innovation, as captured by patenting activity, can potentially contribute to demand for legal services through demand for intellectual property protection (IPR). However, this is not a major source of the demand shift. Table 1 shows that the share of IPR ("Patent") lawyers is quite small, rising only modestly from 1.7 percent in 1972 to 1.9 percent in 1992. Moreover, as shown in Appendix Figure E17(c), patent applications show no trend from 1930 to 1990, increasing sharply afterwards—which does not correlate well with employment and remuneration of lawyers overall (we do not have separate wage data by field of specialization). Finally, the regressions reported in Table 2 do not support a robust correlation with our outcome variables.

Supply. Restriction of supply by the ABA bar exams is widely recognized as a barrier to entry. However, we do not find that this barrier became stricter around 1970. During our period of study the number of ABA-approved law schools and enrollment increased in lockstep. The average enrollment per law school doubled from 125 in 1954 to 250 in 1972, after which it remains at the same level. This implies that the extensive margin of number of schools accounts for the bulk of the increase in supply. The number of ABA approved schools increased from 41 in 1923 to 148 in 1970 and continued to grow steadily, and at a similar pace throughout our sample.

We plot law school tuition, and law school "relative cost" in Appendix Figure E21. We do not see any differential trend in law school tuition in 1970-1990, or post 1990. We compute a measure of the "relative cost" of law school, which is equal to tuition plus the average wage of college graduates divided by the expected wage of lawyers; assuming that agents use only current information, we proxy the latter by the average wage in that year. This relative cost of law school decreases steadily from 1960 to 1990, and stabilizes from 1990 to 2015.

Quality. One potential explanation for the pattern in relative wages of lawyers is changes in quality. In general, Law School Admission Test (LSAT) scores are considered a good measure of academic quality of law school applicants (Wightman, 2000). There is no evidence that the quality

of law school applicants increased in our period of interest. Instead, some scholars have found a decline in law school applicant quality in the 1980 (Vernon & Zimmer, 1987).[65]

Another way to gauge variation in quality is to examine the ratio of LSAT takers to enrolled students in law schools. Unless the difference between LSAT takers and enrollment is due solely to residual low quality candidates, then when this ratio is high we expect selectivity to be higher too. We use data from several sources to build the ratio of LSAT takers to enrollment.[66] This ratio increases from 0.32 in 1948 to 3 in 1970, after which it fluctuates around 3 for the rest of the sample (Appendix Figure E20(a)).[67] This does not suggest an increase in quality in 1970–1990.

We then examine the ratio of law degrees awarded to the cohort enrolled three years before (a J.D. law degree typically takes three years). We expect this ratio to be smaller when schools screen graduates more intensively. We find that this ratio increases from 0.5 for the 1948 enrollment cohort to a bit less than 0.9 for the 1972 cohort, after which it fluctuates around that value for the rest of the sample (Appendix Figure E20(b)). By this metric, quality has decreased, not increased from the 1950s to 1972, after which it has remained stable. We conclude that quality—thus measured—is not a major source of the rise in relative wages for lawyers.

Finally, we do not find that changes in degree requirements for taking the bar exam and becoming a practicing lawyer are an important factor in explaining the evolution of the relative wage of lawyers. Starting in the beginning of the 20th century, U.S. law schools gradually stopped offering undergraduate LL.B. law degrees, and instead offered a post-graduate degree, typically a J.D. degree (or LL.M., especially for foreign lawyers).[68] However, the process of the J.D. becoming the official requirement to taking the bar exam was gradual, starting long before 1970, and did not accelerate at that moment in time.[69]

It is worthwhile to keep in mind that these measures of quality pertain to the flow of lawyers when they enter the profession. Even if quality was trending upwards from 1960, it would have taken many years for this trend to materialize in the stock of lawyers. Taking into account cohorts over time, our micro-level regressions reported in Section 2.6 rule out a simple story of quality upgrading.

[65] Due to changes in the scale of grades, grading systems and changes in the contents of the LSAT, it is not possible to build meaningful time series that span our sample.

[66] We combine data on the number of LSAT takers from White (1984) for 1947–1982, the Manhattan Review (LSAT Prep Courses & Tutoring) for 1950, 1961, 1970, 1980 and 1985, and the Law School Admission Council (LSAC) for 1987 and on. We have data from the American Bar Association (ABA) on enrollment.

[67] The increase in this ratio to 1970 is largely driven by the number of schools that joined LSAC and, thus, accepted the LSAT as their yardstick for admission.

[68] This change followed the movement for the "scientific study of law" at Harvard, during the 19th century.

[69] In addition, given roughly 40 years of work, a 3-year delay in starting to practice law can not explain the magnitude of the increase in the relative wage.

Industry standards. State bar associations uphold strict guidelines dictating the acceptable behavior of lawyers. Until 1977, these guidelines included a prohibition on advertising, and violation of the regulation could result in disbarment. This changed with the Supreme Court Ruling in *Bates v. the State Bar of Arizona* (1977). The Court ruled that advertising was a form of free speech and therefore protected by the First Amendment. Olson (1991) argues that this deregulation of legal advertising had a role in explaining the "litigation explosion." We collect data on advertising post-*Bates* to probe this hypothesis.

Appendix Figure E18 shows a muted response to this change in policy, as measured by the average number of lawyers' advertisements in 4 major newspapers across the United States.[70] The timing suggests that the advertising response in the immediate wake of *Bates* could not explain the increase in employment share and relative wages we observe in 1980, however it is possible that advertising continued to increase demand for legal services, inducing entry. The role of advertising on compensation is less straightforward. Examples in Appendix Figure E19 show that lawyers advertised the fees for their services. While a first-mover advantage could make advertising lucrative—as it apparently did for the Legal Clinic of Bates & O'Steen—the proliferation of advertising would lead to tougher price competition, which would suggest a wage effect in the opposite direction.[71]

Another dimension in which industry standards have evolved is in the prevalence of contingent fee arrangements. These are arrangements used by lawyers to attract business, and imply that the lawyer that represents the plaintiff receives a share of the stakes if the case prevails, but nothing if it does not. Contingent fees can increase access to justice, while at the same time increase lawyers' incomes, thereby giving incentives for entry (Painter, 1995; Helland & Klerman, 2024).[72] Since such contingent fee arrangements are private contracts, no representative statistics exist on their prevalence, let alone consistent time series. Therefore, it is difficult to assess whether the prevalence of contingent fees increased particularly in 1970–1990. Contingent fees are more prevalent in some fields of the law in the United States, such as insurance and negligence, which have increased their shares of litigation activity in 1972–1992 (Table 1), as well as in class action lawsuits.[73]

[70] Our hand-collected sample of newspaper advertisements covers the immediate post-period, from 1977-1982. The newspapers in the sample went from containing no advertisements for legal services to about 5-15 ads per issue.

[71] Testimony from Bates indicates how lucrative this business was; *What's up with all the ads for law firms?*, Planet Money, 2024, https://www.npr.org/2024/10/04/1203595460/lawyers-ads-law-groups-commercials-banned.

[72] Some research has modeled how contingent fees affect lawyers' effort (Danzon, 1983; Kritzer et al., 1985). Another strand of literature debates the potential ethical aspects of contingent fees, such as conflicts of interest between lawyer and client and litigation stirring ("client-getting" or "ambulance chasing") (Moliterno, 2002).

[73] A more recent, and related phenomenon is litigation finance. However, this started increasing its prevalence in the United States only after 2000, long after our period of interest ("A Brief History of Litigation Finance", in *The Practice*, September/October 2019, The Center on the Legal Profession, Harvard Law School).

Women in law. The share of women enrolled in law school rose dramatically from under 10% in 1970 to almost 50% in 2000 (Katz et al., 2023). A differential increase of women into the field of law could potentially explain part of the increase in the share of lawyers, although this does not explain the contemporaneous increase in the relative wage. Appendix Figure E22 shows that while indeed the share of women employed as a lawyer increased between 1970 and 1990, it continued to grow on the same trend post-1990. Moreover, the share of women employed in other high-skill professions (doctors, engineers, scientists) exhibit the same pattern. Wage premia regressions as equation (2), augmented with an indicator for female lawyers show that these women did not receive a wage premium for being a lawyers that is different from that of men (Appendix Figure E23). This is consistent with data from LSAT scores: women do not exhibit significantly different distributions of grades compared to men.[74]

Political influence. A final hypothesis that we consider is that a change in the political influence of lawyers led to the demand shift for their services. We examine the share of lawyers in Congress, and we do not find any change between 1970-1990. In fact, the number of lawyers in Congress decreased over this period (Appendix Figure E24). That is not to say that lawyers in congress can not be influential in shaping the legislation that we study—Bonica (2017) shows that lawyer-legislators are significantly more likely to support fee-shifting statutes and other bills that support the profession. However, we do not find an *increase* in influence, as measured by the share of legislators that are also lawyers, during this period.

7 Excess cost and the misallocation of talent

In this paper, we provide evidence that profound changes in the legal environment increased relative demand for legal services in 1970–1990. Is the observed increase in expenditure on legal intermediation in excess of what would have been "optimal"?[75] First, we quantify the excess cost due to increases in uncertainty in the law. Next, we calculate an excess cost that assumes that the increase in the total employment of legal services is optimal, but the increase in remuneration is not.

[74] Women score on average slightly below men, but this difference is very small in comparison to the standard deviation of test scores.

[75] Note that even if there was no change in the share rents (*à la* Hadfield 2000) in total payments to legal intermediation, the total rent increases with the share of legal intermediation in the economy. However, we wish to go beyond this.

7.1 Excess costs due to uncertainty of the law

In Section 3 we document two primary reasons for the demand shift for legal intermediation: an increase in the scope of the law and an increase in the uncertainty over legal outcomes. Here we calculate the cost of increased uncertainty in the law. The assumption underpinning this exercise is that the increase in the scope of the law is socially beneficial—civil rights, environmental protections, etc.—but the increase in uncertainty is not. We predict counterfactual levels of employment and wages of lawyers absent this uncertainty, with a simple back-of-the-envelope exercise.

In order to complete this exercise we need two additional pieces of information. First, we need information on the relative supply curve for lawyers. This will allow us to predict equilibrium wages and employment under a counterfactual demand shift. Second, we need to know how much of the observed demand shift was due to an increase in uncertainty in the legal environment.

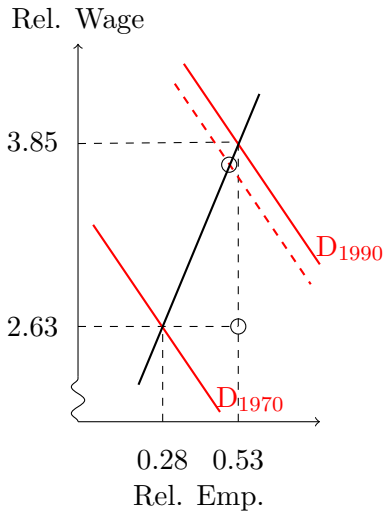
For lawyers' relative labor supply curve we start with the two years of interest from our time series: 1970 and 1990. In 1970, the relative employment share of lawyers was 0.28 and their relative wage was 2.63. In 1990, the employment share was 0.53 and the relative wage was 3.85. We assume that the relative labor supply curve is linear and did not change over this 20 year period—the only change was a shift of the demand curve. Under this assumption, we can trace out the supply curve between the two observed equilibria. This is shown in the diagram in Figure 10.

Attributing a portion of the demand shift between 1970 and 1990 to an increase in uncertainty is a larger challenge. The only data we have on the uncertainty of law during this time period comes from Ash et al. (2024), which measures the share of contingent provisions at the state level. Contingencies stipulate how the law will govern certain situations, therefore providing more detail and less ambiguity. Figure 6(b) shows a 4.1% decrease in the share of contingencies in state legislation between 1970 and 1990, which we interpret as a 4.1% increase in uncertainty in the law. Appendix Table F13 shows that a 1% increase in the share of contingencies is associated with a 2.89% decrease in the employment share of lawyers. Therefore, a 4.1% decrease in contingencies is associated with an 11.8% increase in lawyers' employment share. This calculation is net of the increase in the scope of the law, here measured as the total number of contingencies. Taking these pieces together, we calibrate a counterfactual demand shift that is 88.2% of the observed shift between 1970 and 1990, which is shown in Figure 10 with the dashed red demand curve. Given the labor supply curve, this implies a new equilibrium at (0.50, 3.70).

How does this counterfactual equilibrium translate into levels of employment and wages? In 1990, the wage bill share of lawyers in legal services was 2.05% of the total wage bill.[76] In the

[76] In 1990, there were approximately 578,000 lawyers with an average wage of $119,000. The counterfactual implies a new level of 545,000 lawyers with an average wage of $114,600.

Figure 10: Counterfactual Demand for Lawyers



Shift (%)	Wage Bill Share (%)	Δ $B (2024)
100	2.05	-
90	1.89	17.66
88.2	**1.86**	**20.85**
80	1.74	34.64
70	1.59	50.93

Notes: The graph on the left shows the relative supply and demand for lawyers. The observed relative wage and relative employment from the data are plotted as the 1970 and 1990 equilibria. The x-axis scale is twice that of the y-axis, for visibility. The dashed red line shows the counterfactual demand curve that we derive in our back-of-the-envelope exercise. The table on the right shows how the counterfactual demand shift translates into changes in the wage bill share and dollars ($2024B). The results for the calibrated demand shift is highlighted in bold.

counterfactual, this is reduced to 1.86%, a 9% decrease. Given the total wage bill in 2024, this is a decrease of $20 billion in 2024 alone. Under the assumption that lawyers reallocated from legal services to other activities would be paid the same wage and that all other prices are fixed, then this $20 billion represents the (annual) social cost of the increase in legal uncertainty. This excess cost calculation captures the potential loss due to misallocation of talent to law from other jobs.[77]

The table in Figure 10 shows the calibrated demand shift (88.2% of observed demand, given our data on contingencies and employment shares) in bold. It also shows how the wage bill share would change under other assumptions on the demand shift. For example, if 20% of the demand shift was attributed to an increase in uncertainty, the wage bill share of lawyers would decrease by almost 15%, or $34 billion in 2024.

We repeat this exercise for the legal services industry (instead of only the lawyers within). We predict a counterfactual demand shift for legal services that is 87.1% of the observed shift in 1990, resulting in a new wage bill share of 2.6%, a decrease of $28 billion in 2024.[78]

[77] Under the assumption that lawyers would be paid the same relative wage in these other jobs.

[78] At the industry level, which includes all legal support staff, relative wages are lower but employment shares are higher: the equilibrium was at (0.54, 2.06) in 1970 and at (1.16, 2.45) in 1990. This implies a wage bill share of 2.85% in 1990 (instead of 2.05% for lawyers). Appendix Table F13 shows that a 1% increase in the share of contingencies is associated with a 3.15% decrease in the employment share of legal services.

7.2 Excess costs due to rents

We next assess to which degree the increase in total remuneration in legal services in 1970–1990 is in excess of what would be needed to motivate workers in that sector to provide the required output—i.e., rents. Underlying this calculation is the idea that lawyers and other legal practitioners were already efficiently incentivized in 1970 to provide optimal effort, and that to the extent that the desired quantity of legal intermediation increased, it could be provided with the same incentives.[79]

Consider the difference between the wage bill share of legal services in 1990 and what it would have been with the same growth in the employment share as in the data, had the *relative* wage remained as it was in 1970. That is, we assume that wage growth in legal services since 1970 was at the same rate as in the rest of the private sector, with only an adjustment for the rise in the aggregate college premium that accounts for the need to keep lawyers' incentives in line with other highly skilled workers:

$$excess_{WBsh^{1990}_{legal}} = WBsh^{1990}_{legal} - Nsh^{1990}_{legal} \cdot rw^{1970+}_{legal} = 0.007,$$

where WB denotes wage bill, Nsh denotes employment share, rw denotes relative wage of legal services to the aggregate average wage, and rw^{1970+}_{legal} accounts for the rise in the aggregate college premium (see Appendix Section E for more details). The calculation implies that legal services' wage bill was 0.7 percent points in excess of 1970. Comparing this to the actual $WBsh^{1990}_{legal}$, which was 1.74 percent, we have an excess payment of 41% to legal services employees (lawyers and non-lawyers together). We perform a similar calculation for proprietors' income, as an approximation for law firm partners' incomes, and calculate an excess payment of $excess_{INCsh^{1990}_{legal}} = 39\%$ to proprietors in legal services.

We use the total wage bill WB^{1990} and total proprietors' income INC^{1990} in the private sector to calculate the dollar value implication of $excess_{WBsh^{1990}_{legal}}$ and of $excess_{INCsh^{1990}_{legal}}$ as follows:

$$EXCESS^{1990}_{legal} = excess_{WBsh^{1990}_{legal}} \cdot WB^{1990} + excess_{INCsh^{1990}_{legal}} \cdot INC^{1990} = \$31.1\text{bn}$$

in 1990 alone, and $75 billion per year in 2024 prices. This calculation does not take into account potential cost in terms of misallocation of talent, since it assumes that employment and quantities are fixed at equilibrium levels. Instead, it represents a transfer of income from consumers to suppliers of legal services. At the same time, if the demand curve in Figure 10 were really at D_{1990} and the relative wage remained at 2.63, then we would have seen even greater relative employment in legal services (lawyers or other workers) compared to the 1990 relative quantity of 0.53. In that

[79] The simple counterfactual is that relative wage remains at 1970 levels (2.63), and relative employment at 1990 levels (0.53). We mark this point in the diagram in Figure 10.

case, the supply restriction is an additional cost, akin to inefficiency in monopolized markets, which is not taken into account here, either.

8 Conclusion

The legal services industry underwent remarkable changes between 1970 and 1990: the employment share of legal services more than doubled and the relative wage of lawyers increased by 60%. In contrast, the historical period preceding 1970 (starting as early as 1850 for the employment share) and the period post 1990 both exhibit remarkable stability. We document these and other changes using multiple data sources and then investigate their causes.

We argue that the secular expansion of legal services in 1970–1990 is the result of changes in the legal and regulatory environment that caused an increase in demand for legal intermediation. Aggregate analysis and state-level regressions support this claim. While supply caught up with demand in terms of quantities, the new equilibrium exhibits higher relative wages of lawyers and law firm partners. The rise in demand created new markets for legal intermediation, as well as expanded existing ones. This can explain the rise in the ratio of associate lawyers to partners (and sole proprietors) and the increase in specialization of lawyers across fields.

The rise of the employment share of workers that provide legal services, and the associated rise in expenditure on these services represents a large cost for society. While new laws and regulations *per se* may have a positive effect on social welfare, they do not come without costs. For example, while economic deregulation intended to increase competition and reduce industry rents, a side effect may have been an increase in rents to lawyers. Similarly, while fee-shifting statutes may have been justified on the basis of increasing the effectiveness of legislation, they may have also increased costs per case litigated. An additional cost may arise from the change in the allocation of talent, as greater numbers of talented individuals are absorbed in legal intermediation, litigation, and the prevention of litigation.

Although our findings suggest social costs, we do not measure the social benefit of changes in the legal environment starting in the mid 1960s. We also cannot speak to a counterfactual in which the government expands capacity in order to enforce the new social regulation, instead of providing incentives to the private sector (i.e., fee-shifting). And while our analysis suggests information rents, we do not identify the precise mechanisms that underlie them. Addressing these important issues is beyond the scope of this paper, which present interesting avenues for future research.

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Appendix

A Data

A.1 BEA

The BEA reports statistics on legal services in SIC 8111 in 1929–2000; from 1998 and on it uses NAICS 5411. This leaves three years of overlap, that can be used to gauge any differences between the two systems of industry classification. Comparing SIC 8111 and NAICS 5411 legal services indicates that the SIC 8111 is a proper subset of NAICS 5411, and that industries were added to the latter. These additional industries (in NAICS 5411 and not in SIC 8111) include more lower paid jobs, e.g. paralegal services, notaries, title agents. The following crosswalk table illustrates this.[80]

SIC	Title (and note)	NAICS	Title
8111	Legal Services	5411	Legal Services
8111	Legal Services	541110	Offices of Lawyers
	-Null Set for U.S.-	541120	Offices of Notaries
6541	Title Abstract Offices	541191	Title Abstract and Settlement Offices
7389	Business Services, NEC (process services, patent agents, notaries public, paralegal services)	541199	All Other Legal Services

The relevant BEA series come from the National Income and Product Accounts (NIPA) tables and the Industry Economic Accounts. The NIPA tables, which cover the years 1929 to 2015, have series of employment and income by industry. These data, which are aggregated to the industry level, are sourced from administrative data from state unemployment insurance (UI) programs. We use the following series from the NIPA tables:

1. (Table 6.2) Compensation of Employees by Industry (NW): Compensation measures the total income both wages and salaries and supplements to wages and salaries earned by employees in return for contributing to production during an accounting period.

2. (Table 6.5) Full-Time Equivalent Employees by Industry (FTE): Full-time equivalent employees equals the number of employees on full-time schedules plus the number of employees on part-time schedules converted to a full-time basis. The number of full-time equivalent employees in each industry is the product of the total number of employees and the ratio of average weekly hours per employee for all employees to the average weekly hours per employee on full-time schedules.

3. (Table 6.8) Persons Engaged in Production by Industry ($FTE2$): Equals the number of full-time equivalent (FTE) employees plus the number of self-employed persons. Unpaid family workers are not included. The number of self-employed persons in a given industry is calculated by subtracting the FTE number from FTE2.

[80] Crosswalk table based on `https://www.census.gov/eos/www/naics/concordances/concordances.html`.

4. (Table 6.12) Nonfarm Proprietors' Income by Industry (NW_{prop}): Nonfarm proprietors' income measures the income before deducting income taxes, of sole proprietorships, partnerships, and other private nonfarm businesses that are organized for profit but that are not classified as corporations. Sole proprietorships are businesses owned by a single individual. Partnerships include most associations of two or more of: individuals, corporations, noncorporate organizations that are organized for profit, or of other private businesses. Other private businesses are made up of tax-exempt cooperatives, including credit unions, mutual insurance companies, and rural utilities providing utility services and farm marketing and purchasing services.

The BEA Industry Economic Accounts is the source of the Value Added data series. This series starts in 1947, but the value added of legal services is not reported separately until 1963. The value added of an industry, also referred to as gross domestic product (GDP)-by-industry, is the contribution of a private industry or government sector to overall GDP. The components of value added consist of compensation of employees, taxes on production and imports less subsidies, and gross operating surplus. Value added equals the difference between an industry's gross output (consisting of sales or receipts and other operating income, commodity taxes, and inventory change) and the cost of its intermediate inputs (including energy, raw materials, semi-finished goods, and services that are purchased from all sources).

A.2 Census

The Census microdata is extracted from IPUMS USA. The sample starts in 1850 and ends in 2000, after which we rely on data from the American Community Survey (ACS, see description below). A 5% sample of the decennial census is used in 1900, 1930, 1980, 1990 and 2000. A 1% sample is used in all other years. There is no 1890 observation because a 1921 fire destroyed most of the 1890 records.

We limit the sample to employed individuals. This is used to create three series by industry, occupation and education level: employment, hours worked per week, and income from wages. The employment series starts in the first year of our data, but income and hours worked is not recorded until 1940.

We need to identify lawyers and the legal services industry, in order to track the evolution or their wages and employment with respect to the rest of the economy. Lawyers can be classified in three types: Lawyers in legal services, Lawyers in government, and Lawyers in other private industries. Non-lawyers in legal services are categorized as "clerical", "paralegal", and "other". Paralegals were not listed as an occupation before 1980, so they would be included in our "clerical" group pre-1980. This includes all occupations classified as: "Clerical and Kindred", "Office and Administrative Support", "Office Machine Operators", "Secretaries", and "Clerical Occupations".

A.2.1 Legal services in 1940

We notice an anomaly in legal services employment in 1940. There is a significant increase in the share of legal services employment from 1930 to 1940 and an even greater decrease from 1940 to 1950. There was no corresponding increase or decrease in the number of lawyers in legal services. We attribute the peak in legal services employment in 1940 to a classification error, specifically an error in how some occupations were classified. For example, in 1940 there are 169 "Artists and Art

Teachers" in legal services. There were 3 "Artists and Art Teachers" in the legal services industry in 1930 and 1950 combined.

As a first step in correcting this error, we re-classify occupations that clearly should not be in legal services. This includes "Artists and Art Teachers" and "Dancers". After re-classifying occupations that don't belong to legal services there is still a spike in the 1940 employment share, albeit smaller than before. In the second step we identify the particular occupations that are driving this increase in employment share. We follow the following steps to do this:

1. Calculate each occupation's share of legal service employment, by year.
2. Calculate the percent increase in that share between 1930 and 1940, and between 1940 and 1950.
3. Identify an "outlier" as an occupation whose share both:
   (a) increases by more than 100% between 1930 and 1940, and
   (b) decreases by more than 50% between 1940 and 1950.
4. Calculate the fraction of each occupation that will remain in legal services, based on the average of their 1930 and 1950 values.
5. Take weighted totals for hours, employment, and wage bill, for 1940 and the identified "outliers" in legal services.
6. Use the fraction calculated in step 4 to split hours, employment and wage bill between legal and non-legal (and within legal between clerical and other) from step 5.

A.3 American Community Survey (ACS)

The American Community Survey (ACS) microdata is extracted from IPUMS USA. The sample starts in 2001 and ends in 2015. The ACS is a 1-in-100 national random sample of the population. Just as with the decennial census data, we limit the sample to employed individuals. This is used to create three series by industry, occupation and education level: employment, hours worked per week, and income from wages.[81]

A.4 Census/ACS series

We create one series for analysis with the decennial censuses (until 2000) and the ACS (from 2001), calling it "Census/ACS". It should be noted that there is one major difference between the Census and the ACS. This difference arises because the decennial census uses "point of time" estimates while the ACS uses "period" estimates. This means that data collection for the decennial census targets a specific point in time whereas ACS data are collected continuously.

While decennial census enumeration lasts from around mid-March to late August, most of the data is collected around the April 1st time period and, for all practical purposes, represents the characteristics of the population as of April 1st in the decennial census year. The 2005 ACS, for

[81] For more details on the ACS see `https://ofm.wa.gov/sites/default/files/public/legacy/pop/acs/ofm_acs_user_guide.pdf` and `https://ofm.wa.gov/washington-data-research/population-demographics/american-community-survey`.

example, contains data collected from January to December 2005. Certain questions, of course, refer to previous years data. For example, the Census captures income from the previous calendar year while the ACS captures income from the previous 12 months. That means that the 2005 ACS income data reflect income received between January 2004 and November 2005, depending on when the individual was surveyed.

A.4.1 Hours worked

There are three different "hours worked" questions recorded in the IPUMS microdata, depending on the year of the survey. We use all three to create the hours worked series. "Hours worked last week" is recorded, as a continuous variable, in 1940, 1950, 1980, and 1990. "Hours worked last week" is recorded in intervals in 1940, 1950, 1960, 1970, 1980 and 1990. "Usual hours worked per week" is recorded, as a continuous variable, from 1980 to 2015. In the years in which we only have weekly hours worked as an intervalled variable (1960, 1970) we assign the midpoint of the recorded interval to each individual.

A.4.2 Business income

The Censuses and the ACS report business income, which, in principle, would include the income of law firm partners in legal services. These data are top codded in a similar fashion as wage data (see below), but with different thresholds. We experimented with building income series for lawyers and for law firm partners using these data. Unfortunately, the business income data are not very informative. This is because the incidence of top coding is high, especially in early years, and because we suspect that business income beyond the top coding threshold is much more skewed than labor income. One useful piece of information that we do get from the business income data is that it corroborates the V-shape evolution of proprietors' income in legal services from the BEA (a drop from 1973 to 1982 and then a sharp increase until 1990), shown in Figure 2(c).

A.4.3 Top coding for wage income data

Table F7 reports top code thresholds and top coded wages for wage income data in the Census (1940–2000) and in the ACS (2001 and onwards). In 1940–1980 respondents' wages above these thresholds are reported at the threshold. In later years wages above the top code thresholds are reported as state median of wages above threshold (1990) or state mean of wages above threshold (2000 and on). From 2000 there is state-level variation in top code reporting, and from 2003 the top code threshold itself varies by state (99.5^{th} percentile within the state).

Table F8 reports the percent of employees that are top coded and their corresponding unadjusted wage bill share in the Censuses (1940-2000) and in the ACS (2001 and onwards). The unadjusted top coded wage bill share sums all top coded wages, and then divides by the total wage bill.

A.5 Current Population Survey (CPS)

We use the Annual Social and Economic supplement to the Current Population Survey (March), which reports annual income and work variables for the previous year. Here, 1967–2015 correspond to surveys carried out in 1968–2016. For complete details on the CPS see Flood et al. (2017), or web page `https://cps.ipums.org/cps/`. From these data we use only the employment data in Figure E1(a).

A.6 Census of services, states-fields sample

We created a "states-fields" sample of lawyers by state and fields of specialization using the Census of Services. The Census of Services is conducted every five years starting in 1967, but legal services firms are asked about lawyers fields of specialization only in 1972–1992. We combine this with employment data from the Censuses. The 1970 and 1990 Census data are used for 1972 and 1992 employment numbers, respectively. Here we provide details on how we constructed the "states-fields" sample.

- The Census of Services reports the number of lawyers in the USA, and their numbers in the USA by field. The Census of Services also reports numbers of lawyers (total and by field) for MSAs with enough respondents. Not all MSAs are reported. This implies that the total lawyer counts for all MSAs is less than the total for the United States from the same source.
  - We take into account a small number of changes in definitions of MSA over time in CO, NY and WI. In order to use as much information as possible, we split MSAs when necessary. For example, in NY we have "Buffalo" in 1972–1987, but "Buffalo-Niagra Falls" in 1987 and 1992. We use the Buffalo share of lawyers in "Buffalo-Niagra" in each field in 1987 to extrapolate the Buffalo numbers from the "Buffalo-Niagra Falls" total in 1992. The same is done for Denver/Denver-Boulder in CO, and Milwaukee/Miluwakee-Racine in WI.
- We aggregate MSA level data up to the state-level. For example, lawyers in New York = Lawyers in Buffalo + Lawyers in New York City + Lawyers in Albany. Some states have only one MSA. The total number of states is 28 plus the district of Columbia (DC), and are listed here: AL, AZ, CA, CO, CT, DC, FL, GA, IL, IN, KY, LA, MA, MD, MI, MO, NC, NJ, NY, OH, OK, OR, PA, TN, TX, UT, VA, WI. Overall, the state-fields sample contains 51% of the total number of lawyers in the United States. See Table A3 in the appendix for the list of MSAs and their mapping to states.
- Here is the list of fields, with the share of each field across states in the total for the field in the USA (pooling across 1972 and 1992) in the resulting sample: banking and commercial (55%), corporate (69%), criminal (48%), domestic relations (40%), insurance (49%), patent/trademark/copyright (77%), real estate (52%), tax (67%), wills/estate planning/probate (46%), negligence (50%). We aggregate a handful of tiny fields into a category called "other" (63%). Finally, there are lawyers that are classified as "general practice" (40%).
- We merge into the state-fields sample state-level employment the Census. In doing so, we use only the employment of the specific MSAs underlie the state-fields sample from the Census of Services. Using the New York example, Employment in NY = Employment in Buffalo + Employment in New York City + Employment in Albany.

B Calculation of Series of Interest

In this appendix we provide additional details on the calculation of each of the series we reference in Section 2.

Relative wages of Lawyers in Legal Services:

$$\omega_{lawyer|legal} = \frac{w_{lawyer|legal}}{w_{nonlegal}} \ . \tag{13}$$

We define the relative wage of lawyers within legal services, $\omega_{lawyer|legal}$, as the ratio of the average labor income among all lawyers within legal services to $w_{nonlegal}$. Here, we use Census and ACS data for both the numerator and denominator, denoted When doing so, we multiply top-coded wages by 1.5 in 1940–2002. From 2003 we do not adjust top coded wages in the ACS, which reports all wages up to the 99.5th percentile by state of residence; above this threshold wages are coded as the state mean of wages above the state-specific 99.5th percentile.

The second methodology is designed to address top coding in the Census wage data. Here, we combine Census/ACS data with BEA data to impute the relative wage of lawyers. The average wage in legal services is, in general,

$$w_{legal} = \lambda w_{lawyer|legal} + \ (1-\lambda)\, w_{nonlawyer|legal} \ , \tag{14}$$

where λ is the employment share of lawyers within legal services. We use Census/ACS data to compute the average wage of non-lawyer employees in legal services $w^{Cen/ACS}_{nonlawyer|legal}$, because we know that non-lawyers' wages are very rarely top-coded.[82] We also know the employment share of lawyers within legal services, $\lambda^{Cen/ACS}$, from the Census/ACS. Then, we use the BEA data to compute the average wage in legal services w^{BEA}_{legal}, which does not suffer from top-coding. Rearranging Equation (14) and using the series above we have:

$$\omega^{imputed}_{lawyer|legal} = \frac{w^{imputed}_{lawyer|legal}}{w^{BEA}_{nonlegal}} = \frac{w^{BEA}_{legal} - (1-\lambda^{Cen/ACS}) w^{Cen/ACS}_{nonlawyer|legal}}{\lambda^{Cen/ACS}} \cdot \frac{1}{w^{BEA}_{nonlegal}} \ , \tag{15}$$

where $w^{BEA}_{nonlegal}$ is average non-legal services wages using the BEA data.[83]

It is reassuring that these two series, using different methodologies and data, agree with each other so well.[84] Since $\omega^{imputed}_{lawyer|legal}$ does not suffer from top coding, it is higher than $\omega^{Cen/ACS}_{lawyer|legal}$, which applies an imperfect top coding correction. The series are closer at the end of the sample, when top coding in $\omega^{Cen/ACS}_{lawyer|legal}$ becomes less restrictive.

[82] Only 0.45% of non-lawyers in legal services report wages that are top coded (compared to 11% for lawyers); as above, we multiply top-coded wages by 1.5 in 1940–2002, and make no adjustments from 2003 and on.

[83] One caveat with this approach is that the wage concept in the BEA data is labor compensation, while in the Census/ACS data several elements of compensation may not be represented. We have no way of correcting for this. Therefore, the accuracy of Equation (15) relies on the assumption that the share of missing compensation items in the $w^{Cen/ACS}_{nonlawyer|legal}$ series is small.

[84] Differences in denominators make it possible for both $\omega^{imputed}_{lawyer|legal}$ and $\omega^{cen/ACS}_{nonlawyer|legal}$ in Figure 2(b) to be above ω_{legal} in Figure 2(a) in early years. For example, in 1940 $\omega^{imputed}_{lawyer|legal} = 1.05$, $\omega^{cen/ACS}_{nonlawyer|legal} = 1.28$, and $\omega_{legal} = 0.9$. The reason is that denominator in $\omega^{cen/ACS}_{nonlawyer|legal}$ is $w^{cen/ACS}_{nonlegal}$, whereas in ω_{legal} it is $w^{BEA}_{nonlegal} > w^{cen/ACS}_{nonlegal}$.

Relative income for Partners (Proprietors) within Legal Services:

$$\omega_{partners|legal} = \frac{w_{partners|legal}}{w_{nonlegal}} \ . \tag{16}$$

The numerator of $w_{partners|legal}$ is proprietors income within legal services. Its denominator is the difference between full time equivalent employment of "persons engaged" and "employees". Here, we use BEA data on wages and proprietor's income.

Decomposition of wages: We perform the following decomposition of relative wages:

$$\Delta\omega = \underbrace{\sum_i \Delta n_i \overline{\omega}_i}_{\text{Between}} + \underbrace{\sum_i \overline{n}_i \Delta\omega_i}_{\text{Within}} \ , \tag{17}$$

where $\Delta\omega$ is the aggregate relative wage change of either legal services ω_{legal} or lawyers $\omega_{lawyer|legal}$ over some period. The first sum, Between, captures the importance of compositional changes in state sizes, whereas the second sum, Within, captures the importance of within-state changes in employment share. We also apply the decomposition (17) for ω_{legal} where i denotes occupations Proprietors' income is not reported at the state-level, so we cannot perform the decomposition (17) for $\omega_{partners|legal}$. Despite similar appearance, the components of (17) are different from those in (1), and we list them for the case of state-decomposition of ω_{legal}. Here Δn_i is the change in state i's share of total legal services employment, $\overline{\omega}_i$ is the average relative wage of legal services within state i relative to the aggregate $w_{nonlegal}$, $\overline{n}_i$ is state i's average share of total legal services employment, and $\Delta\omega_i$ is the change in the relative wage of legal services within state i relative to the aggregate $w_{nonlegal}$.

Decomposition of fields: We perform the following decomposition of Lawyers' fields:

$$\Delta F = \underbrace{\sum_i \Delta n_i \overline{f}_i}_{\text{Between}} + \underbrace{\sum_i \overline{n}_i \Delta f_i}_{\text{Within}} \ , \tag{18}$$

where ΔF is the aggregate change in the share of lawyers in a given field in the U.S. from 1972 to 1992, i denotes a state, Δn_i is the change in the employment share of lawyers (regardless of field) in that state, $\overline{f}_i$ is the average field share of lawyers within state i during the period, $\overline{n}_i$ is the average lawyer share of state i, and Δf_i is the change in the field of law share within state i. The first sum captures the contribution of changes in the share of total lawyers in a state (the "between" share), whereas the second sum captures the importance of within-state changes in field of law share ("within").

C Litigation model and fee-shifting

In this appendix we solve for the Nash equilibrium of the Hirshleifer & Osborne (2001) model under three assumptions. The first is the basic case, as in their paper, where each side is responsible for paying its legal fees. We then solve for two versions of fee-shifting that are not in their paper: asymmetric in favor of the plaintiff, and symmetric. In general, fee-shifting is asymmetric, in favor of the plaintiff, but it depends on the fee-shifting statute. For example, according to the civil rights fee-shifting statue the plaintiff pays for the legal fees of the defendant "if the litigation is unreasonable, frivolous, or meritless". This is in the spirit of the motivation of the fee-shifting statutes, which were enacted to help plaintiffs mount a case. For completeness, we solve the model under the so-called "English rule", where fee-shifting applies to both parties, symmetrically, i.e., the losing side pays for the legal fees of the winning side.

C.1 Basic case: the "American rule"

Here we repeat the analysis of Hirshleifer & Osborne (2001). There are a Plaintiff (p) and a Defendant (d), who have common knowledge of all the underlying functions and parameters: the actual level of fault (or merit of the case), the stakes, the costs of trial, and the structural relationships set forth in the model itself. Both are risk-neutral, and maximize own expected income. Ignoring agency issues, the respective litigation efforts are L_p and L_d. The cost of litigation is $C_i = \gamma \cdot L_i$ for $i \in \{p, d\}$. Alternatively, each dollar of expenditure buys $1/\gamma$ units of lawyer effort. Each party is assumed responsible for its own legal costs regardless of the outcome—the so-called "American rule".

The value of the lawsuit is

$$V_i = \pi J_i - C_i, \tag{19}$$

where the stakes for the plaintiff are $J_p > 0$, while, for simplicity, the stakes for the defendant are $J_d = -J_p < 0$, and $\pi = \pi_p = 1 - \pi_d$ is the probability that the plaintiff wins. An alternative interpretation of pi is the"comparative fault" interpretation, where the outcome is a proportionate division of the stakes. Note that the defendant can only lose. There are no fixed costs. Define fault $Y \in (0, 1)$: $Y = 1$ means that the defendant is totally in the wrong, while $Y = 0$ means that the plaintiff's case is entirely without merit. We interpret Y as *uncertainty about merit* of the plaintiff.

Define the Litigation Success Function (LSF)

$$\frac{\pi}{1-\pi} = \left(\frac{L_p}{L_d}\right)^{\alpha} \frac{Y}{1-Y}, \tag{20}$$

which is equivalent to

$$\pi = \frac{L_p^{\alpha} Y}{L_p^{\alpha} Y + L_d^{\alpha} (1-Y)}. \tag{21}$$

An extension of the LSF to include sensitivity of outcome to fault (i.e., replacing $[Y/(1-Y)]$ by $[Y/(1-Y)]^{\beta}$) yields qualitatively similar results. To ease notation, define

$$y = \frac{Y}{1-Y}$$

and rename $L_p = p$, $L_d = d$. Then (21) becomes

$$\pi = \frac{p^\alpha Y/(1-Y)}{p^\alpha Y/(1-Y) + d^\alpha} = \frac{p^\alpha y}{p^\alpha y + d^\alpha}. \tag{22}$$

It is useful to note that

$$1 - \pi = \frac{d^\alpha}{p^\alpha y + d^\alpha}.$$

The plaintiff's problem. The plaintiff chooses p to maximize

$$V_p = \pi J - \gamma p.$$

This yields FONC

$$\frac{\alpha p^{\alpha-1} y \left(p^\alpha y + d^\alpha\right) - p^\alpha y \alpha p^{\alpha-1} y}{\left(p^\alpha y + d^\alpha\right)^2} J - \gamma = 0,$$

which yields

$$p = \alpha \left(\frac{J}{\gamma}\right) \pi (1 - \pi).$$

The defendant's problem. The defendant chooses d to maximize

$$V_d = -\pi J - \gamma d.$$

This yields FONC

$$\frac{p^\alpha y \alpha d^{\alpha-1}}{\left(p^\alpha y + d^\alpha\right)^2} J - \gamma = 0,$$

which yields

$$d = \alpha \left(\frac{J}{\gamma}\right) \pi (1 - \pi).$$

The optimal solution for p and d is the same, say $p = d = L$. Plug this in (21) to get $\pi = Y$ and thus

$$L = \alpha \frac{J}{\gamma} Y (1 - Y),$$

which verifies the result in Hirshleifer & Osborne (2001). Total cost for society is the sum of efforts times the unit cost of effort γ, since J is just a transfer. Therefore,

$$\text{Total cost} = 2 \times \alpha J Y (1 - Y).$$

Finally, the value of the lawsuit is

$$\begin{aligned} V_p &= JY\left[1 - \alpha(1 - Y)\right] \\ V_d &= -JY\left[1 + \alpha(1 - Y)\right]. \end{aligned}$$

The value of the lawsuit is always positive for the plaintiff for $Y > 0$. The value of the lawsuit is always negative for the defendant for $Y > 0$, but not as negative as the stakes, J, unless $Y = 1$, where $V_d = -J$.

C.2 Asymmetric fee-shifting in favor of the plaintiff

The parameters of the problem are the same, only the objective functions of the plaintiff and defendant change in order to reflect the asymmetric fee-shifting statue. This gives rise to asymmetry in optimal behavior.

The plaintiff's problem. The plaintiff chooses p to maximize

$$V_p = \pi J - (1 - \pi)\gamma p,$$

The FONC for the plaintiff is

$$\frac{\partial}{\partial p}\left[\pi J - (1 - \pi)\gamma p\right] = \frac{\partial}{\partial p}\left[J\frac{p^\alpha y}{p^\alpha y + d^\alpha} - \gamma\frac{d^\alpha p}{p^\alpha y + d^\alpha}\right] = 0,$$

which yields

$$p = \frac{J}{\gamma}\frac{\alpha\pi}{1 - \alpha\pi}. \tag{23}$$

The defendant's problem. The defendant chooses d to maximize

$$V_d = -\pi J - \gamma d - \pi\gamma p.$$

The FONC for the defendant is

$$\frac{\partial}{\partial d}\left[-\pi J - \gamma d - \pi\gamma p\right] = \frac{\partial}{\partial d}\left[-J\frac{p^\alpha y}{p^\alpha y + d^\alpha} - \gamma d - \gamma\frac{p^\alpha y}{p^\alpha y + d^\alpha}p\right] = 0,$$

which yields

$$d = \left(\frac{J}{\gamma} + p\right)\alpha\pi\left(1 - \pi\right) \tag{24}$$

Using (23) in (24) gives

$$d = \frac{J}{\gamma}\frac{\alpha\pi}{1 - \alpha\pi}\left(1 - \pi\right).$$

A few results emerge:

1. The plaintiff applies more effort than the defendant, by a factor of $1/\left(1 - \pi\right) > 1$. This makes sense, given the objective functions above: the plaintiff takes into account directly only $(1 - \pi)$ of the cost of p, while the defendant takes into account all of d and $(1 - \pi)$ of the cost of p.

2. The probability that the plaintiff wins is greater than in the case with no fee-shifting. Using $d = p(1-\pi)$ in (20) gives

$$\frac{\pi}{1-\pi} = \left(\frac{1}{1-\pi}\right)^{\alpha} \frac{Y}{1-Y},$$

which implies that $\pi > Y$ because $(1/(1-\pi))^{\alpha} > 1$ for any $\pi \in (0,1)$. Plugging $d = p(1-\pi)$ into (21) gives

$$\pi = \frac{p^{\alpha} Y}{p^{\alpha} Y + p^{\alpha}(1-\pi)^{\alpha}(1-Y)} = \frac{Y}{Y + (1-\pi)^{\alpha}(1-Y)},$$

which again shows that $\pi > Y$ because the denominator is less than one for any $\pi \in (0,1)$ and any $Y \in (0,1)$.

3. The plaintiff makes more effort compared to the case with no fee-shifting. To see this, suppose—incorrectly—that $\pi = Y$, like in the symmetric case. Then

$$p = \alpha \frac{J}{\gamma} \frac{Y}{1-\alpha Y},$$

which is already greater than in the symmetric case (where we had $p = \alpha (J/\gamma) Y (1-Y)$) as long as $\alpha \leq 1$, which is a reasonable assumption. But since $\pi > Y$, this only reinforces the inequality because

$$\frac{\pi}{1-\alpha\pi} > \frac{Y}{1-\alpha Y}.$$

4. The defendant makes more effort compared to the case with no fee-shifting, except when merit is very high. See Figure C2 below.

5. Total cost for society is higher than in the case with no fee-shifting (unless $Y = 0$). See Figure C5 below. Total cost for society is the sum of efforts time the unit cost of effort γ, since J is just a transfer. Therefore,

$$\text{Total cost} = J \frac{\alpha\pi}{1-\alpha\pi}(2-\pi).$$

6. The plaintiff's effort p increases with her claim's merit Y. To see this first note that $\pi > Y$ and that π increases in Y. From

$$\frac{\pi}{1-\pi} = \left(\frac{1}{1-\pi}\right)^{\alpha} \frac{Y}{1-Y}$$

we obtain

$$\Phi(\pi, Y) = \frac{Y}{1-Y} - \frac{\pi(1-\pi)^{\alpha}}{1-\pi} = 0,$$

which is an implicit function in π and Y. Now

$$\Phi_Y = \frac{1 - Y - Y(-1)}{(1-Y)^2} = \frac{1}{(1-Y)^2} > 0$$

and

$$\begin{aligned}
\Phi_\pi &= -\frac{\left[(1-\pi)^\alpha + \pi\alpha(1-\pi)^{\alpha-1}\right](1-\pi) - \pi(1-\pi)^\alpha(-1)}{(1-\pi)^2} \\
&= -\frac{(1-\pi)^{\alpha+1} + \pi\alpha(1-\pi)^\alpha + \pi(1-\pi)^\alpha}{(1-\pi)^2} \\
&= -\frac{(1-\pi)^\alpha(1+\alpha\pi)}{(1-\pi)^2} \\
&= -(1-\pi)^{\alpha-2}(1+\alpha\pi) \\
&< 0.
\end{aligned}$$

Thus

$$\frac{d\pi}{dY} = -\frac{\Phi_Y}{\Phi_\pi} > 0.$$

Now it suffices to show that $dp/d\pi > 0$

$$\begin{aligned}
\frac{dp}{d\pi} &= \frac{d}{d\pi}\alpha\frac{J}{\gamma}\frac{\pi}{1-\alpha\pi} \\
&= \alpha\frac{J}{\gamma}\frac{1-\alpha\pi-\pi(-\alpha)}{(1-\alpha\pi)^2} \\
&= \alpha\frac{J}{\gamma}\frac{1}{(1-\alpha\pi)^2} \\
&> 0.
\end{aligned}$$

7. Effort for the defendant L_d is hump-shaped with the plaintiff's merit Y. Given that $d\pi/dY > 0$ from above, we need to study $dL_d/d\pi$:

$$\begin{aligned}
\frac{dL_d}{d\pi} &= \frac{d}{d\pi}\frac{J}{\gamma}\frac{\alpha\pi}{1-\alpha\pi}(1-\pi) \\
&= \frac{d}{d\pi}\alpha\frac{J}{\gamma}\frac{\pi-\pi^2}{1-\alpha\pi} \\
&= \alpha\frac{J}{\gamma}\frac{(1-2\pi)(1-\alpha\pi)-\left(\pi-\pi^2\right)(-\alpha)}{(1-\alpha\pi)^2} \\
&= \alpha\frac{J}{\gamma}\frac{1-\alpha\pi-2\pi+2\alpha\pi^2+\alpha\pi-\alpha\pi^2}{(1-\alpha\pi)^2} \\
&= \alpha\frac{J}{\gamma}\frac{1-2\pi+\alpha\pi^2}{(1-\alpha\pi)^2},
\end{aligned}$$

which can be greater or smaller than zero. For $\alpha \in (0,1)$ the derivative is positive for small π and negative for large π. The maximum is when the derivative is zero, i.e., when

$$\alpha\pi^2 - 2\pi + 1 = 0.$$

Solving for the root gives

$$\pi = \frac{2 \pm \sqrt{4 - 4\alpha}}{2\alpha} = \frac{2 \pm 2\sqrt{1-\alpha}}{2\alpha} = \frac{1 \pm \sqrt{1-\alpha}}{\alpha}$$

and the economic root is

$$\pi = \frac{1 - \sqrt{1-\alpha}}{\alpha}.$$

This maximum is equal to 1 when $\alpha = 1$ and is equal to 0.5 when $\alpha \to 0$:

$$\begin{aligned}
\lim_{\alpha \to 0} \frac{1 - \sqrt{1-\alpha}}{\alpha} &= \text{„}\frac{0}{0}\text{„} \\
&\overset{L}{=} \lim_{\alpha \to 0} \frac{-0.5\left(1-\alpha\right)^{-0.5}\left(-1\right)}{1} \\
&= \lim_{\alpha \to 0} 0.5\left(1-\alpha\right)^{-0.5} \\
&= 0.5.
\end{aligned}$$

We now show that the π that characterizes the maximum plaintiff's effort L_d is increasing in α:

$$\begin{aligned}
\frac{d}{d\alpha}\frac{1-\left(1-\alpha\right)^{0.5}}{\alpha} &= \frac{-0.5\left(1-\alpha\right)^{-0.5}\left(-1\right)\alpha - \left[1-\left(1-\alpha\right)^{0.5}\right]}{\alpha^2} \\
&= \frac{0.5\alpha\left(1-\alpha\right)^{-0.5} - 1 + \left(1-\alpha\right)^{0.5}}{\alpha^2} \\
&= \frac{0.5\alpha - \left(1-\alpha\right)^{0.5} + 1 - \alpha}{\alpha^2\left(1-\alpha\right)^{0.5}} \\
&= \frac{1 - 0.5\alpha - \left(1-\alpha\right)^{0.5}}{\alpha^2\left(1-\alpha\right)^{0.5}}
\end{aligned}$$

This isn't obvious, but numerical solutions with $\alpha \in (0,1)$ show that the last derivative is positive. Thus, the maximum effort for the defendant is at a π that is higher the larger is α. Interestingly, this occurs a levels of merit that do not deviate much from 0.5, as numerical results demonstrate. In order to understand the last result, use the implicit function approach again, writing

$$\Phi\left(\pi, \alpha\right) = \frac{Y}{1-Y} - \frac{\pi\left(1-\pi\right)^{\alpha}}{1-\pi} = 0,$$

treating Y as a parameter. We already know from above that $\Phi_\pi < 0$. Then

$$\begin{aligned}
\Phi_\alpha &= \frac{\partial}{\partial \alpha}\left[\frac{Y}{1-Y} - \frac{\pi\left(1-\pi\right)^\alpha}{1-\pi}\right] \\
&= \frac{\partial}{\partial \alpha}\left[\frac{Y}{1-Y} - \frac{\pi}{1-\pi}e^{\alpha \ln(1-\pi)}\right] \\
&= -\frac{\pi}{1-\pi}e^{\alpha \ln(1-\pi)}\ln\left(1-\pi\right) \\
&= -\frac{\pi\left(1-\pi\right)^\alpha}{1-\pi}\ln\left(1-\pi\right) \\
&> 0,
\end{aligned}$$

because $1-\pi < 0$ and the log of a number between zero and one is negative. Thus

$$\frac{d\pi}{d\alpha} = -\frac{\Phi_\alpha}{\Phi_\pi} > 0.$$

Thus, for any level of Y, π is larger when α is larger. This explains why the maximum effort for the defendant, L_d, occurs at greater π when α increases, but Y at which this maximum effort takes place remains about 0.5.

Numerical example. Assuming $\alpha = 0.5$, we have the following outcomes.

- In the Figure C1 we see that the probability that the plaintiff wins is greater than in the case with no fee-shifting.
- In the Figure C2 we see that effort (normalized by J/γ) is higher for the plaintiff than for the defendant. Effort for the plaintiff is always higher than her effort in the case with no fee-shifting, but when merit is high, the defendant makes less effort than in the case with no fee-shifting.
- Figure C3 reports the expected costs of the lawsuit for each side (normalized by J/γ). For the plaintiff this is $(1-\pi)\gamma p$, i.e., the cost of effort times the probability that she loses the case. For the defendant expected costs are $\gamma d + \pi\gamma p$, i.e., the cost of her effort, which she bears with certainty, plus the cost of the defendant times the probability that the defendant wins. We see that the expected cost for the plaintiff is lower than in the case with no fee-shifting. In contrast, the expected cost for the defendant is higher than in the case with no fee-shifting, except when the merit of the plaintiff is very high.
- Figure C4 reports the value of the lawsuit for each side. We see that the value for the plaintiff is always positive, and for the defendant it is negative. Moreover, the value of the lawsuit for the defendant can be more negative than the stakes (shown by the horizontal line at -1) above some level of merit of the plaintiff. In this case the defendant prefers to concede without the legal battle.
- Finally, in Figure C5 we see that with fee-shifting the total cost of the lawsuit is greater than when there is no fee-shifting.

Figure C1: Fee-shifting: probability plaintiff wins (π)

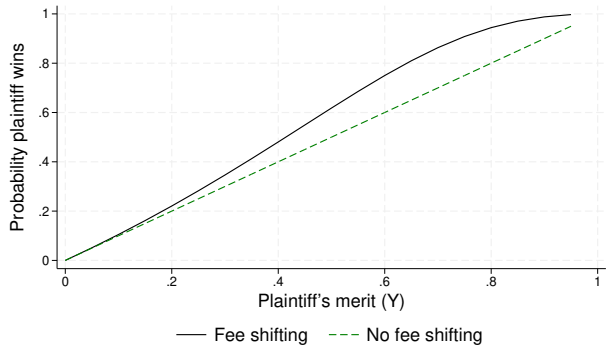


Figure C2: Fee-shifting: effort (L_p, L_d)

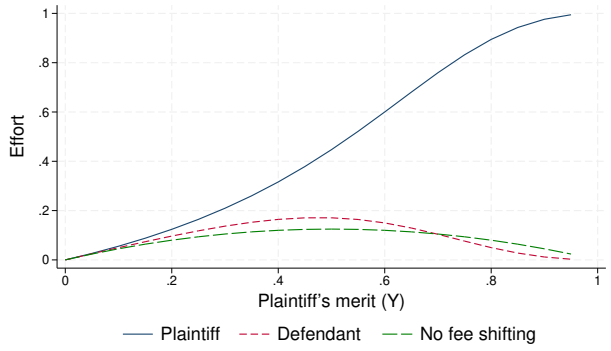


Figure C3: Fee-shifting: expected cost ($(1-\pi)\gamma p, \gamma d + \pi\gamma p$)

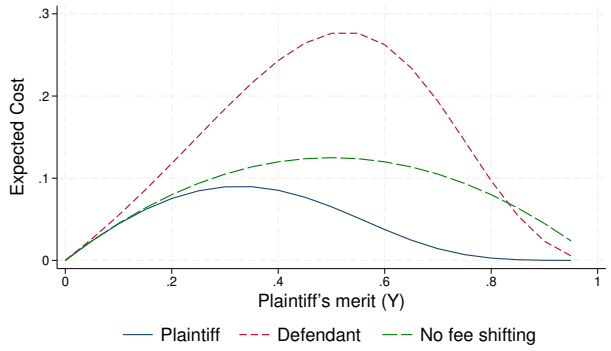


Figure C4: Fee-shifting: expected value of the lawsuit (V_p, V_d)

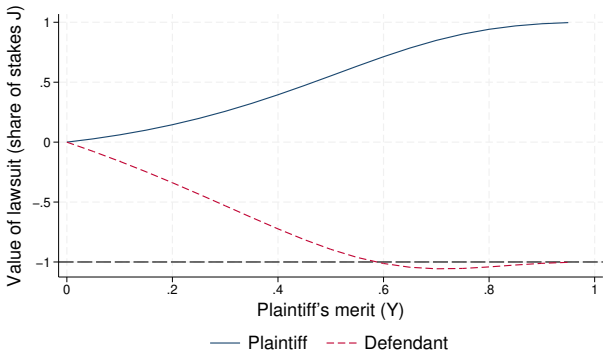
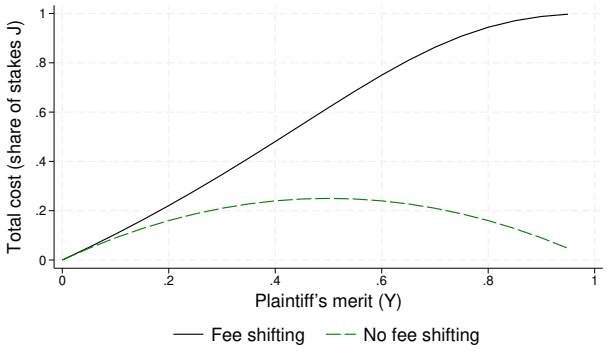


Figure C5: Fee-shifting: Total costs $(C_p + C_d)$



C.3 Symmetric fee-shifting: the "English rule"

The parameters of the problem are the same, only the objective functions of the plaintiff and defendant change in order to reflect the symmetric fee-shifting statue. Surprisingly, despite this symmetry in treatment, optimal behavior is asymmetric.

The plaintiff's problem. The plaintiff chooses p to maximize

$$V_p = \pi J - (1-\pi)(\gamma p + \gamma d).$$

The FONC for the plaintiff is

$$\frac{\partial}{\partial p}\left[\pi J - (1-\pi)(\gamma p + \gamma d)\right] = \frac{\partial}{\partial p}\left[J\frac{p^\alpha y}{p^\alpha y + d^\alpha} - \gamma\frac{d^\alpha p}{p^\alpha y + d^\alpha} - \gamma\frac{d^\alpha}{p^\alpha y + d^\alpha}d\right] = 0,$$

which yields

$$p = \left(\frac{J}{\gamma} + d\right)\frac{\alpha\pi}{1-\alpha\pi}.$$

The defendant's problem. The defendant chooses d to maximize

$$V_d = -\pi J - \pi(\gamma p + \gamma d).$$

The FONC for the defendant is

$$\frac{\partial}{\partial d}\left[-\pi J - \pi(\gamma p + \gamma d)\right] = \frac{\partial}{\partial d}\left[-\frac{p^\alpha y}{p^\alpha y + d^\alpha}(J + \gamma p + \gamma d)\right] = 0,$$

which yields

$$d = \left(\frac{J}{\gamma} + p\right)\frac{\alpha(1-\pi)}{1-\alpha(1-\pi)}$$

Using the result for p in d and after simplification we get

$$d = \frac{J}{\gamma}\frac{\alpha}{1-\alpha}(1-\pi).$$

Using this last expression in the expression for p gives

$$p = \frac{J}{\gamma}\frac{\alpha}{1-\alpha}\pi.$$

This is somewhat surprising; unless $\pi = 0.5$, optimal behavior is not symmetric, despite the symmetric treatment of the statute. The reason is that each agent sees different marginal return to effort.

A few results emerge:

1. The ratio of plaintiff effort to defendant effort may be greater or smaller than one. Using the last two results yields
$$\frac{p}{d} = \frac{\pi}{1-\pi},$$

Using (20) this implies gives

$$\frac{p}{d} = \frac{\pi}{1-\pi} = \left(\frac{p}{d}\right)^{\alpha} \frac{Y}{1-Y} = \left(\frac{Y}{1-Y}\right)^{1/(1-\alpha)}.$$

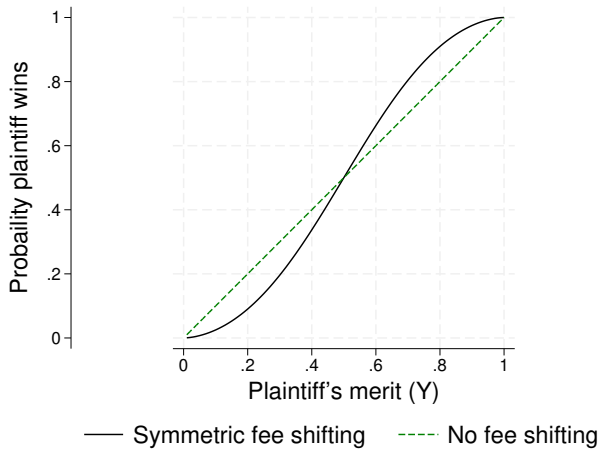
If $\alpha \in (0,1)$, then this implies that relative merit results in an amplified probability to win.

2. The relationship between plaintiff's merit Y and the probability that the plaintiff wins π is S-shaped. Solving for π gives

$$\pi = (1-\pi)\left(\frac{Y}{1-Y}\right)^{1/(1-\alpha)} = \frac{\left(\frac{Y}{1-Y}\right)^{1/(1-\alpha)}}{1+\left(\frac{Y}{1-Y}\right)^{1/(1-\alpha)}} = \frac{Y^{1/(1-\alpha)}}{(1-Y)^{1/(1-\alpha)} + Y^{1/(1-\alpha)}}.$$

This implies that π is below Y for $0 < Y < 0.5$ and π is above Y for $0.5 < Y < 1$. In Figure C6 we set $\alpha = 0.4$ and plot π for the case of symmetric fee-shifting and for no fee-shifting.

Figure C6: Symmetric fee-shifting: probability plaintiff wins, π



3. Effort can be above or below the level in the symmetric case without fee-shifting. Figure C7 illustrates this, where we set $\alpha = 0.4$ and plot effort, normalized by J/γ.

4. Total cost is greater than total cost in the case with no fee-shifting. Total cost is given by

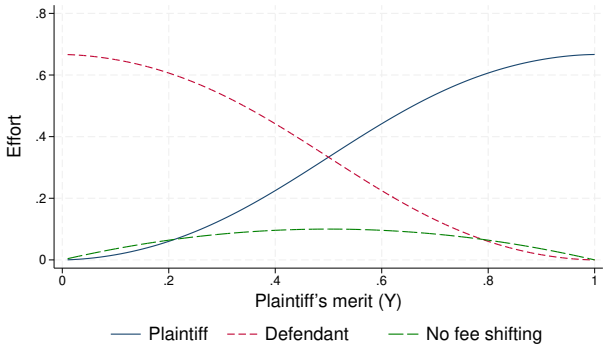
$$\text{Total cost} = \gamma p + \gamma d = J\frac{\alpha(1-\pi)}{1-\alpha} + J\frac{\alpha\pi}{1-\alpha} = J\frac{\alpha}{1-\alpha}.$$

We saw above that with no fee-shifting Total cost $= 2 \times \alpha JY(1-Y)$. So we need to prove that

$$2 \times Y(1-Y) < \frac{1}{1-\alpha}.$$

The maximum value for the LHS is when $Y = 0.5$, which gives 0.5. This is less than $1/(1-\alpha) > 1$ whenever $\alpha \in (0,1)$. Therefore, total cost is more than double compared to the case without fee-shifting.

Figure C7: Fee-shifting: effort



D Changes in Industry Composition

We build on the Leontief (1936) accounting model. The vector of value added by industry can be expressed as

$$v = V \cdot X = V(Ax + f) = v \cdot L \cdot f,$$

where V is a diagonal matrix of value-added intensities in gross output, x the vector of gross output by industry, A is the square matrix of input intensities, f is the vector of final good production (demanded by households, the government, gross investment, changes in inventories, and net exports), and $L = (I - A)^{-1}$ is the Leontief inverse matrix. We compute a counterfactual value added vector as

$$\widehat{v}^{1990} = V^{1970} \cdot L^{1970} \cdot f^{1990}$$

and compare the GDP shares arising from $\widehat{v}^{1990}$ to those in the 1990 data. $\widehat{v}^{1990}$ combines the structure of production in 1970 (input-output relationships and value added intensities) with demand for final goods in 1990. This generates a counterfactual vector of value added per industry that is consistent with the observed changes in demand, had the structure of production remained as in 1970. For example, the sum of the elements in $\widehat{v}^{1990}$ (as well as in the true v^{1990}) is equal to the sum of the elements in f^{1990}; the former is equal to GDP from the production approach, while the latter—from the expenditure approach.

We use the Input-Output "use" tables from the Bureau of Economic Analysis' (BEA) Industry Accounts. Consistent with other tabulations from the BEA, the GDP share of legal services was 0.7 percent in 1970 and 1.4 percent in 1990. Using $\widehat{v}^{1990}$ we find that the counterfactual GDP share of legal services in 1990 is 0.86 percent. Thus, changes in industry composition account for 23 percent ($= (0.86 - 0.7)/0.7$) of the rise of legal services' GDP share.

We use the same data to analyze changes in which industries absorb the (gross) output of legal services, including households and other final uses. The Input-Output tables report for each industry, and for legal services in particular,

$$x_{legal} = \sum_j Z^j_{legal} + f_{legal},$$

where x_{legal} is (gross) output of legal services, Z^j_{legal} is the output of legal services that is used by industry j (including legal services), and f_{legal} is the output of legal services that is purchased by final users, including households, the government, etc. (Dividing Z^j_i by x_j gives the elements in the i row in A above.) Dividing through by x_{legal} we have

$$\sum_j \frac{Z^j_{legal}}{x_{legal}} + \frac{f_{legal}}{x_{legal}} = \sum_j b^j_{legal} + b^{final}_{legal} = 1,$$

where b^j_{legal} is the share of legal services output that is purchased by industry j, and b^{final}_{legal} is the share legal services output that is purchased by households, the government, etc.

Comparing these share over time reveals that overall, industries have only modestly increased their importance as clients of legal services: $\sum_j b^j_{legal}$ increased by only 1.3 percent points, from 56.4 in 1970 to 57.7 in 1990. The industries that increased their share in legal services output the

most (in percent points) are:

Table D1: Top 10 industries increasing their share of legal services output

Industry	$b^j_{legal,1970}$	$b^j_{legal,1990}$	Δ
Retail trade	1.2	6.9	5.8
Real estate	3.1	5.6	2.5
Hospitals and nursing and residential care facilities	0.6	2.5	1.9
Insurance carriers and related activities	1.0	2.7	1.7
Ambulatory health care services	1.3	2.8	1.5
Food services and drinking places	0.4	1.5	1.1
Securities, commodity contracts, and investments	0.4	1.5	1.1
Computer and electronic products	0.4	1.4	1.0
Other transportation and support activities	0.2	1.1	0.9
Chemical products	0.7	1.5	0.8

We can use again the same data to investigate which industries increased their legal services input intensity the most. This is captured by the elements in the legal services row in the A matrix for each industry j:

$$a_{legal,j} = Z^j_{legal}/x_j.$$

Comparing these $a_{legal,j}$ over time reveals that almost all industries increased their intensity of legal services inputs. The industries that increased their intensity of legal services input the most (in percent points) are:

Table D2: Top 10 industries increasing their intensity of use of legal services input

Industry	$a^j_{legal,1970}$	$a^j_{legal,1990}$	Δ
Other transportation and support activities	0.20	2.11	1.91
Waste management and remediation services	0.32	2.04	1.72
Data processing, internet publishing, and other information services	0.00	1.44	1.44
Securities, commodity contracts, and investments	1.02	2.33	1.31
Retail trade	0.13	1.31	1.18
Insurance carriers and related activities	0.40	1.18	0.78
Hospitals and nursing and residential care facilities	0.36	1.10	0.74
Publishing industries, except internet (includes software)	0.37	1.09	0.72
Air transportation	0.09	0.81	0.72
Food services and drinking places	0.12	0.72	0.60

E Excess Payments

In order to compute rw_{legal}^{1970+} start by writing the average wage in legal services as in equation (14), a weighted average of lawyers' and non-lawyers' wages, and adjust the wage of lawyers for the aggregate growth rate in college wages from 1970 to 1990 (about 6 percent in the data), denoted g. Then $rw_{legal}^{1970+} = \frac{\lambda w_{lawyer|legal}^{1970}(1+g)+\ (1-\lambda)w_{nonlawyer|legal}^{1970}}{w_{total}^{1970}} = \left[g\lambda_{legal}^{law}\left(w_{legal}^{law,1970}/w_{legal}^{1970}\right)+1\right] rw_{legal}^{1970}$.

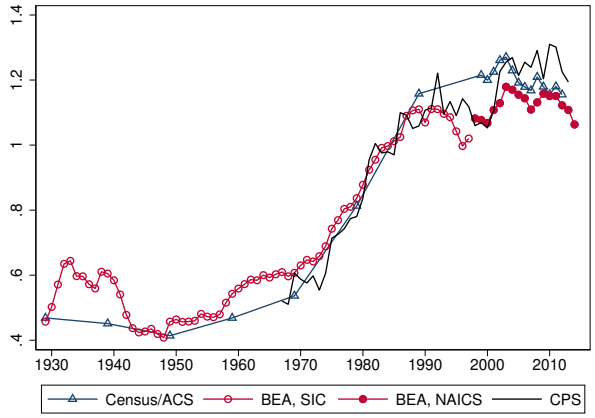
For proprietors, the calculation is:

$$excess_{INCsh_{legal}^{1990}} = INCsh_{legal}^{1990} - SELFsh_{legal}^{1990} \cdot z_{legal}^{1970} = 0.04,$$

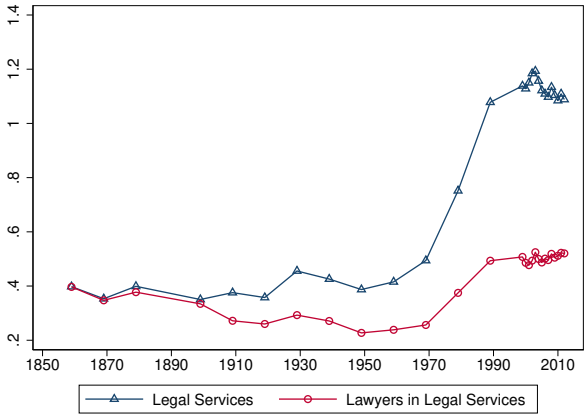
where $INCsh$ is proprietors' income share in total proprietors' income in the private sector, $SELFsh$ is self employment, and z is the ratio of average income of self employed in legal services relative to the average income of self employed in the private sector. The calculation implies that proprietors' income in legal services was 4 percent points in excess of 1970. Comparing this to the actual $INCsh_{legal}^{1990}$, which was 10.3 percent, we have an excess payment of 39% to proprietors in legal (all of which we assume are lawyers).

F Supplemental Figures

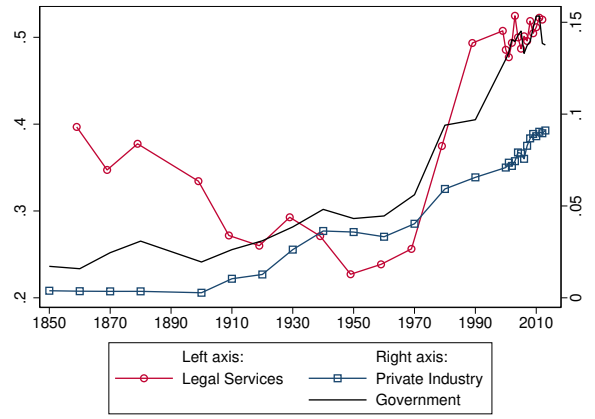
Figure E1: Employment Shares of Legal Services, Additional Series



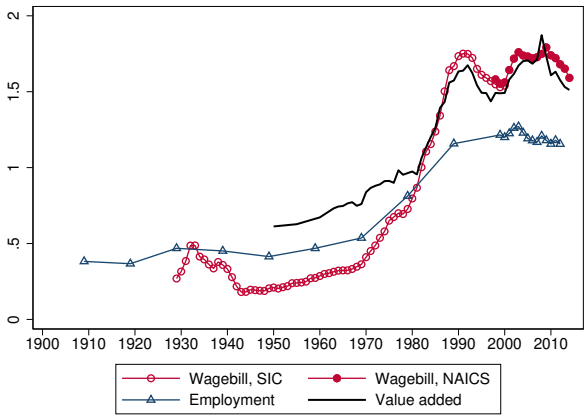
(a) Employment Shares Across 3 Data Sources



(b) Legal Services Emp. as Share of Total Economy



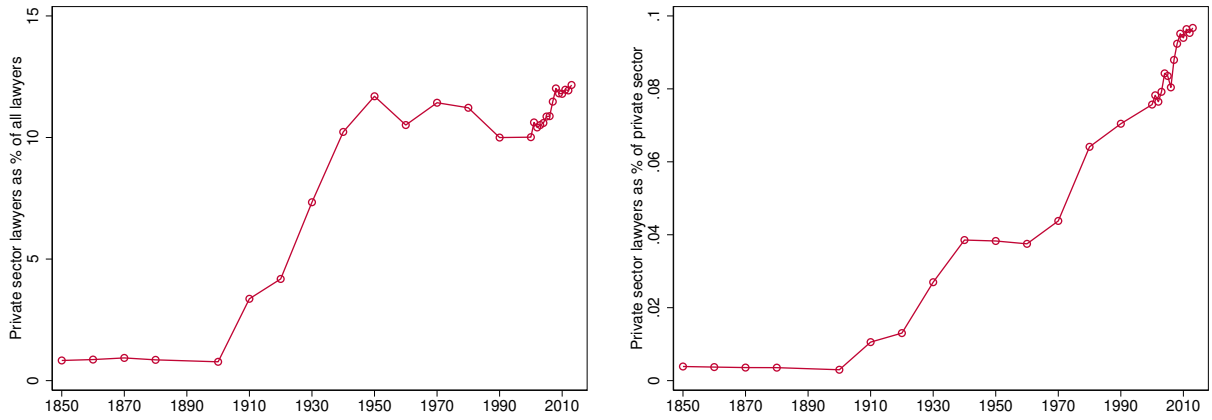
(c) Lawyers in Legal Services, Industry, and Govt (%)



(d) Employment Shares, Value Added, and Wage Bill

Notes: In (a) we compare employment shares using Census, BEA, and CPS data. BEA series are employment shares in terms of full-time equivalents, using the *persons engaged* labor concept, which includes proprietors 1929–2015. The CPS series is in terms of hours shares, 1967–2013 In (b) we show employment measured in hours, and shares are within the entire economy (in Figure 1 these are shares in the private sector). Employment is sourced from the decennial Census from 1850–2000, and the American Community Survey from 2001–2015. The legal services series is the total employment in the legal services industry, as a share of the total employment in the economy, including the public sector. The lawyers in legal services series is the total employment of lawyers in the legal services industry, as a share of the total employment in the economy, including the public sector. In (d) we show the employment share in legal services against the wage bill and value added shares in the industry, from the BEA.

Figure E2: Employment Shares of Lawyers in Private Industry

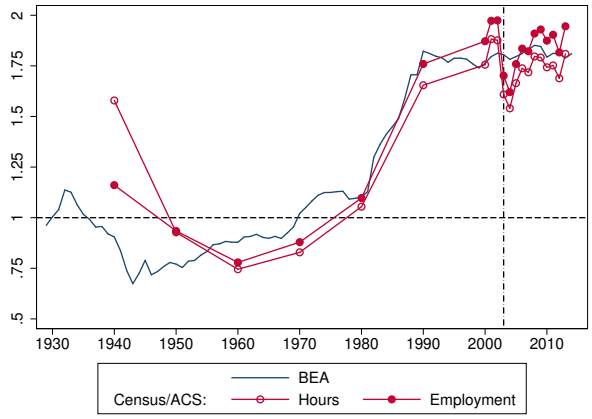


(a) Lawyers in Industry, as % of All Lawyers

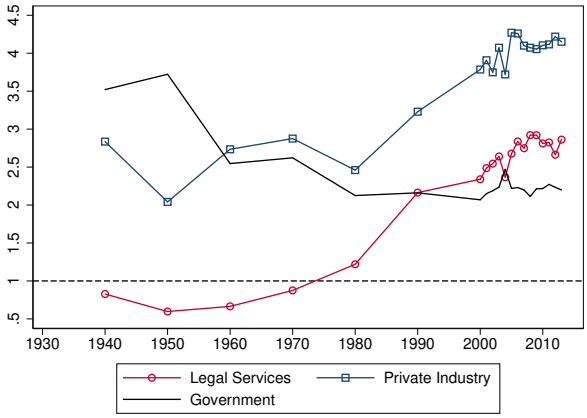
(b) Lawyers in Industry, as % of Private Sector

Notes: Employment is sourced from the decennial Census from 1850–2000, and the American Community Survey from 2001–2015.

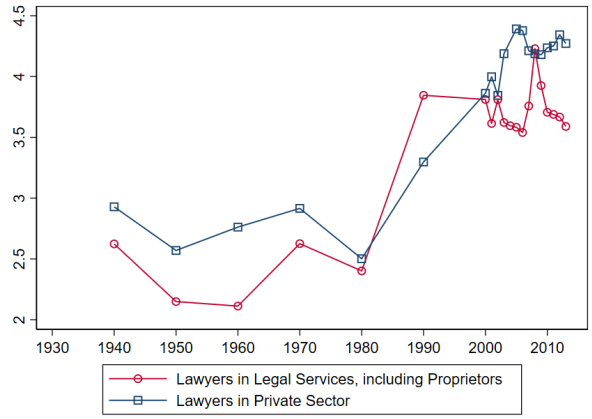
Figure E3: Relative Wages of Legal Services, Additional Series



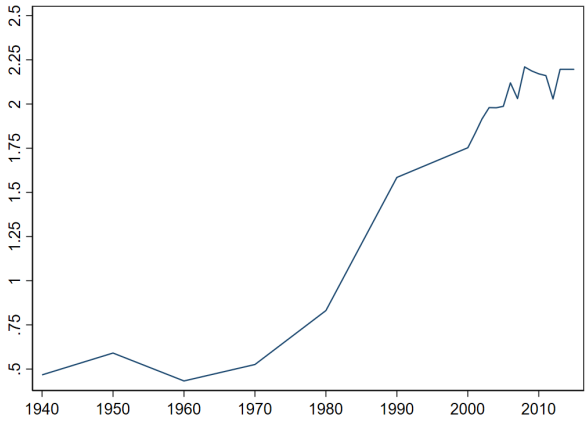
(a) Relative Wages Across 3 Data Sources



(b) Lawyers in Legal Services, Industry, and Govt



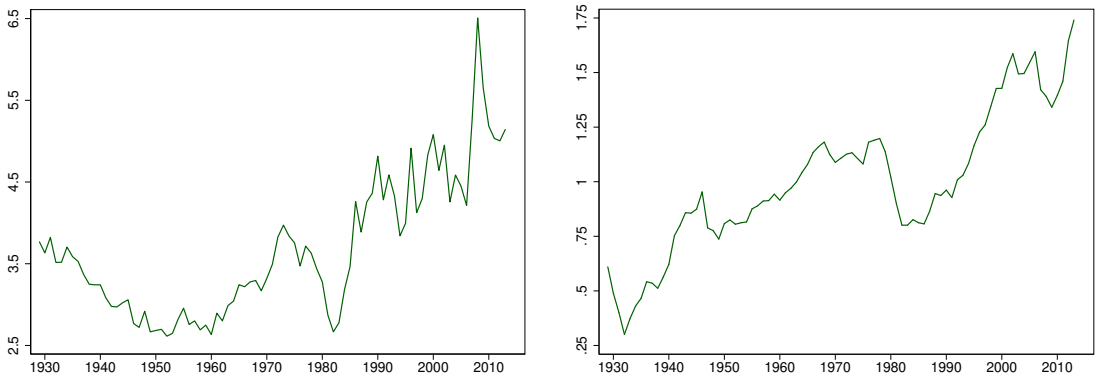
(c) Lawyers and Proprietors in Legal Services vs Industry



(d) Lawyers Wages Relative to College Graduates

Notes: In (a), all series are relative to non-legal services private sector. BEA relative wage series uses data on compensation of employees and full-time equivalent employment. Until 1997 data based on SIC; from 1998 data based on NAICS. Census/ACS series use data on wage bills and either hours worked (hourly relative wage, comparable to using FTE), or employment for observations that report non-missing wage bill information. Top coded wages are multiplied by 2 until 2002, inclusive; no adjustment is made from 2003 and on. The vertical dot-dashed line indicates the year 2003. See data appendix for methodology on top coding and corrections for it. In (b), wages of lawyers across sectors are relative to total non-lawyer wages. In (c), wages of lawyers are relative to college-graduate wages. Source: U.S. Censuses and the American Community Surveys from 2000 and on.

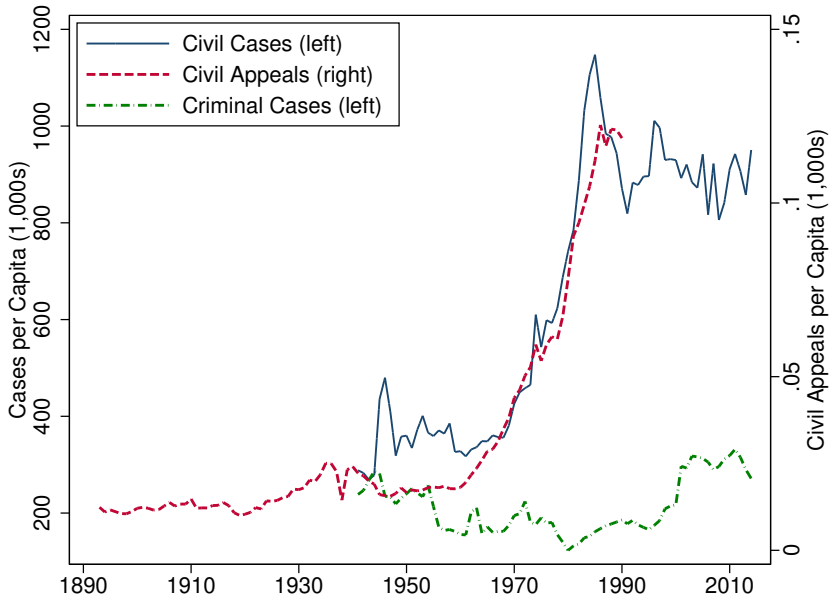
Figure E4: Relative income of proprietors in the private sector



(a) Legal Services (b) All

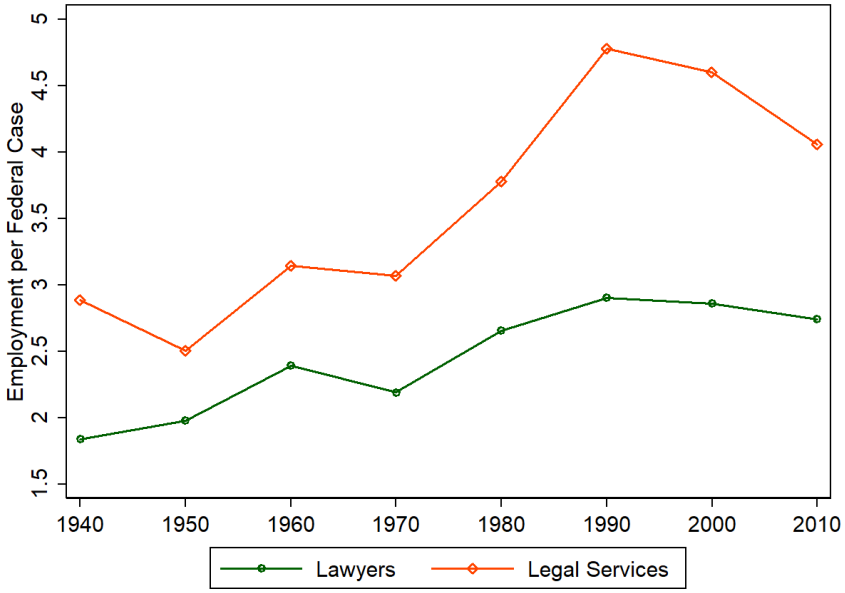
Notes: Total proprietors' income in the private sector is divided by their full time equivalent employment (FTE) to obtain their income per FTE. This is divided by the average wage in the private sector, which is equal to labor compensation divided labors' FTE. Source: BEA. Series splits in 1997 as industry classification changes from SIC to NAICS. In this case, the splicing changes virtually nothing, as the SIC and NAICS series are almost equal in the years in which they overlap.

Figure E5: Litigation Intensity



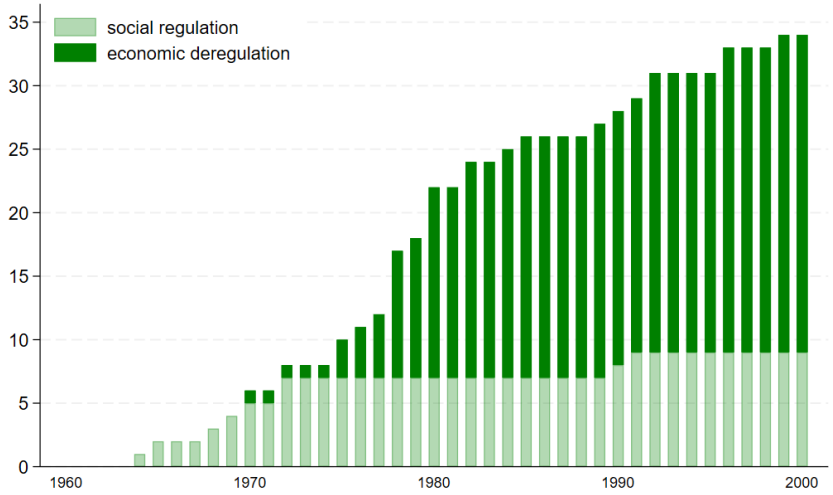
Notes: Civil cases and Criminal cases in 1941–1999 are sourced from the Historical Statistics of the United States. Civil and Criminal cases in 2000–2015 are from the Administrative Office of the U.S. Courts. Civil cases in the Court of Appeals covers 1893 to 1994, and is sourced from the Historical Statistics of the United States. Cases are normalized by total population in units of 1,000 people.

Figure E6: Lawyers per Federal Case Filing



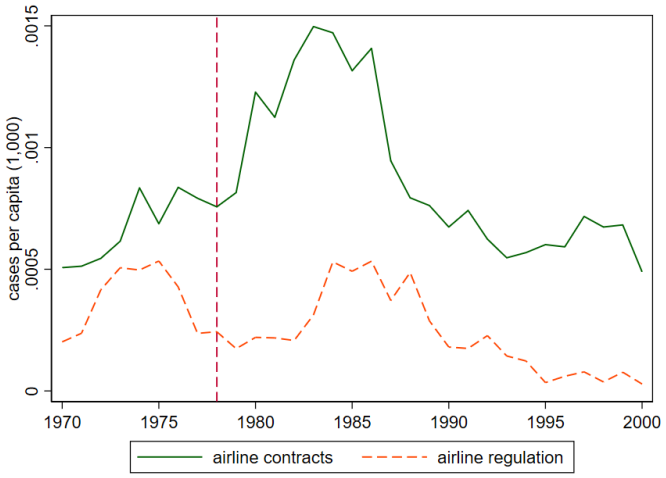
Notes: Cases include both civil and criminal. Cases in 1941–1999 are sourced from the Historical Statistics of the United States. We use the case filings in 1941 for 1940. Cases in 2000–2015 are from the Administrative Office of the U.S. Courts. The Lawyers series is total employment of Lawyers, per the decennial census, including lawyers in legal services, private industry and government.

Figure E7: Timing of Social Regulation and Deregulation Events



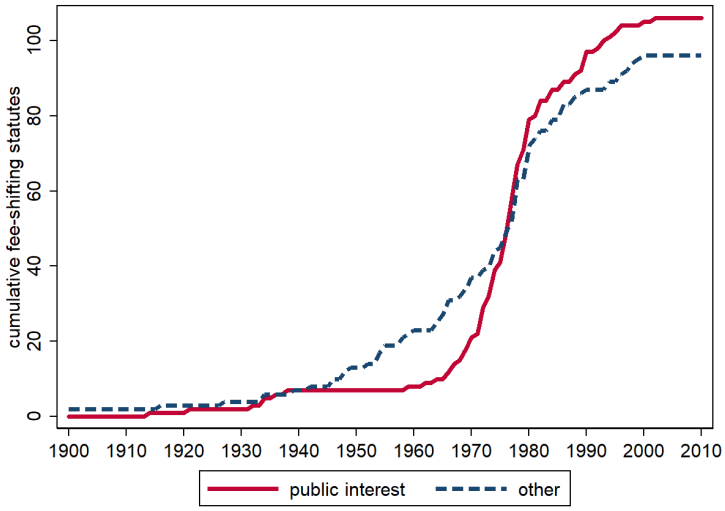
Notes: The figure displays the cumulative number of legislative acts or events pertaining to social regulation and economic deregulation. Appendix Table F5 includes the dates and names of all of the events.

Figure E8: Civil Cases Filings and Airline Deregulation



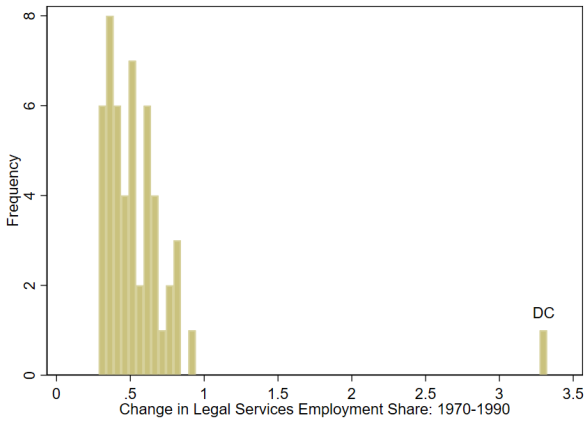
Notes: The figure shows the per-capita civil filings related to the airline industry. The source of the data is the Federal Judicial Center Integrated Database (IDB). There are two series plotted: airline regulation cases, in the dashed orange line, and airline contracts cases, in the solid green line. "Airline Regulation" is a nature of suit in the IDB, while "Airline Contracts" cases are defined as any case under the nature of suit "Other Contract" involving an airline. The deregulation of the industry occurred in 1978, marked by the dashed vertical line.

Figure E9: Fee-shifting statues by type

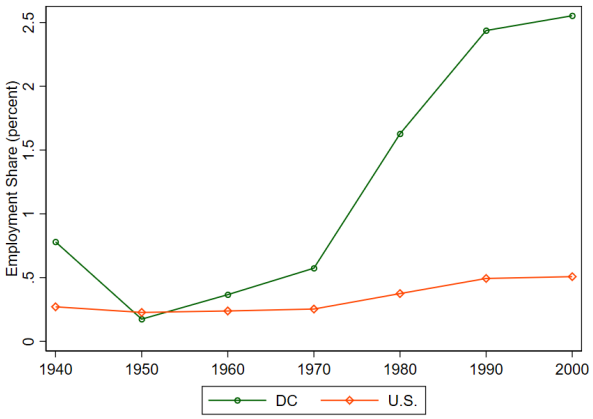


Notes: This figure displays the cumulative number of fee-shifting statutes in the United States, per Derfner & Wolf (2012). We separate out the statutes that apply to "public interest" litigation: economic regulation, consumer protection, consumer safety, environmental protection, civil rights, and employment.

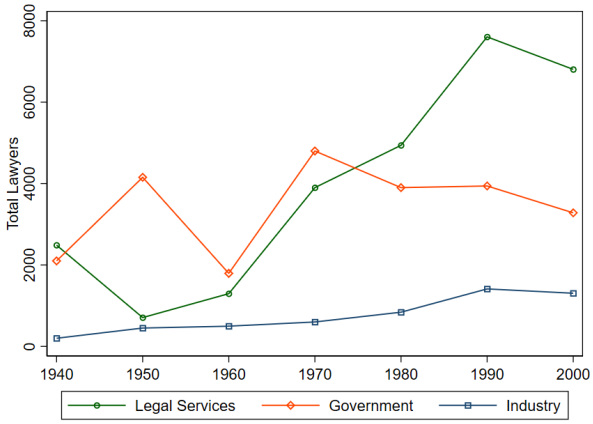
Figure E10: Lawyers in Washington, D.C.



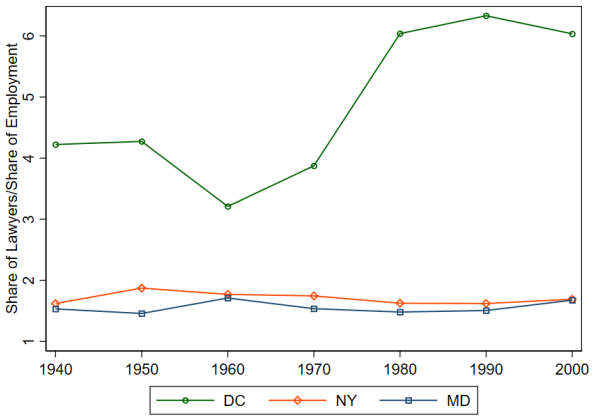
(a) State-Level Changes in Emp. Share



(b) Employment Share of Lawyers in Legal Services



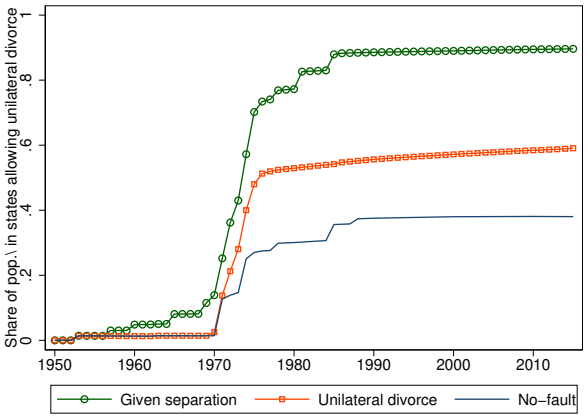
(c) Number of Lawyers, by Type



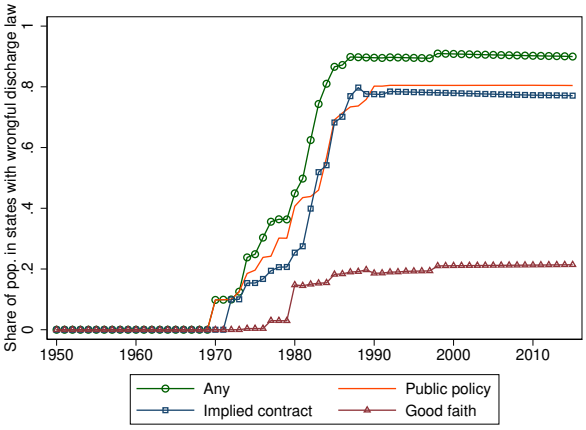
(d) Lawyer Share by Employment Share in DC, NY, MD

Notes: Figure (a) presents the change in the share of legal services employment in each state, from 1970 to 1990. While all of the states experienced increases in the legal services employment share, DC is a clear outlier. Figure (b) presents the share of employment in DC that is employed as lawyers in legal services, As a reference, the employment share of lawyers in legal services in the entire U.S. is also included. Figure (c) compares the total employment of lawyers in DC by "type" (legal services, government, and industry). Finally, Figure (d) shows the comparative advantage of lawyers in DC: the share of lawyers in DC over the share of lawyers in the United States. The next two top states, by this measure, are NY and MD.

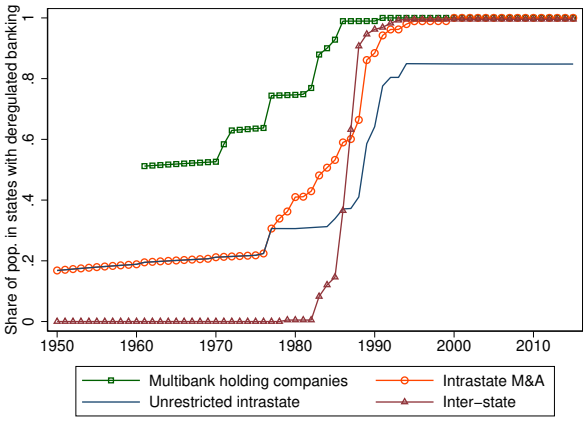
Figure E11: State-Level Deregulation



(a) No-Fault Divorce



(b) Wrongful Discharge Laws



(c) Bank Branching

Notes: Figure (a) presents the share of total U.S. population in states allowing unilateral divorce.Dates of no-fault divorce "deregulation" by state are from Friedberg (1998) and Vlosky & Monroe (2002). Figure (b) presents the share of total U.S. population in states with wrongful discharge laws. Dates of wrongful-discharge laws by state are from Autor et al. (2006). Figure (c) presents the share of total U.S. population in states with banking deregulation, by type of deregulation. Dates of bank branching deregulation are from Mengle (1990) and Black & Strahan (2001).

Figure E12: State-Level Deregulation: Distribution of Event Years

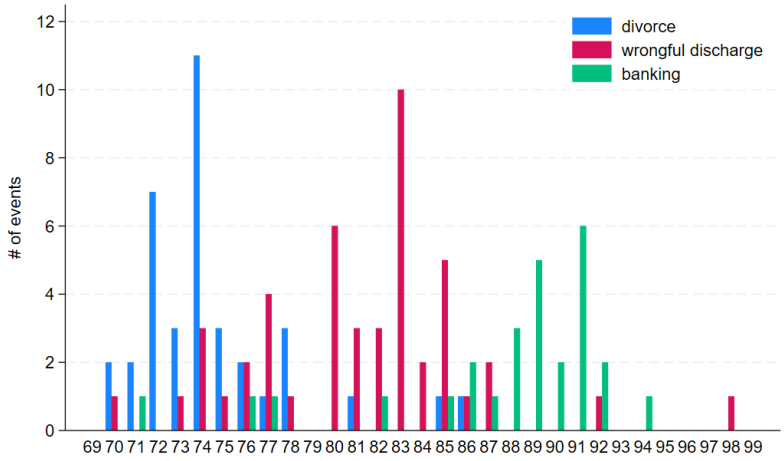


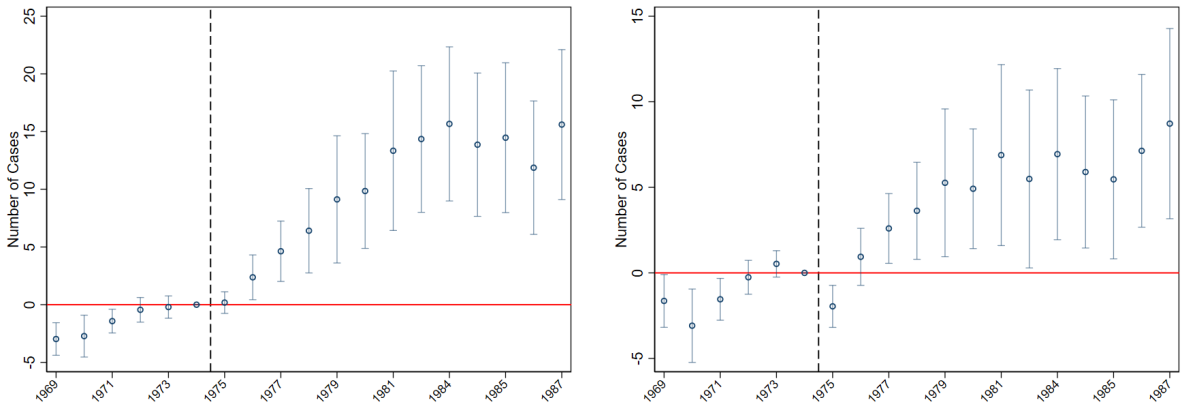
Figure E13: Civil Case Filings and Social Regulation



(a) Environmental Matters (b) Occupational Health and Safety

Notes: The figure shows the per-capita civil filings for two specific nature of suits that we can link to federal legislation: "Environmental Matters" and "Occupational Health and Safety." The year is the year the case was filed. The source of the data is the Federal Judicial Center Integrated Database.

Figure E14: Lanham Act Event Study

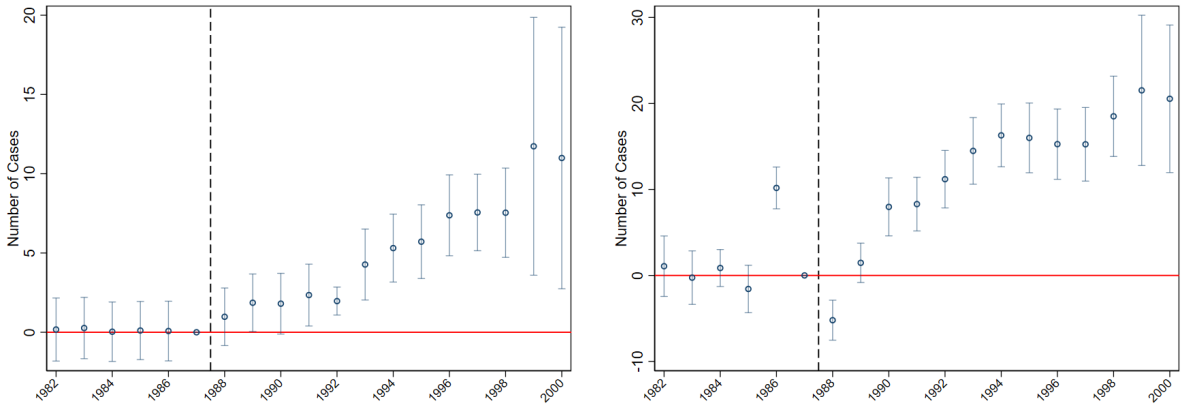


(a) Patent Cases as Control

(b) Contract Cases as Control

Notes: This figure shows the event study estimates (equation 7) for the effect of fee-shifting provisions on the number of cases. We aggregate the number of cases by district-nature of suit-year, and there are 95 districts across the U.S. Standard errors are clustered at the district level. The figure on the left uses only patent cases as a control (nature of suit 830), which are always treated by fee-shifting over the sample period. The figure on the right uses the contract cases (nature of suits 110, 120, 130, 160) which are never treated by fee-shifting) The source of the data is the Federal Judicial Center Integrated Database.

Figure E15: Fair Housing Act Amendment Event Study

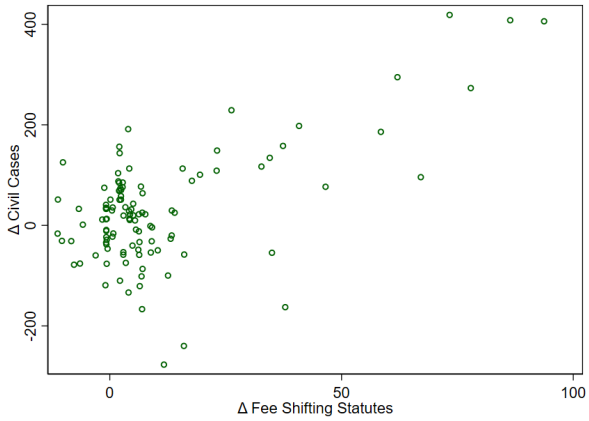


(a) Civil Rights Cases as Control

(b) Contract Cases as Control

Notes: This figure shows the event study estimates (equation 7) for the effect of fee-shifting provisions on the number of cases. We aggregate the number of cases by district-nature of suit-year, and there are 95 districts across the U.S. Standard errors are clustered at the district level. The figure on the left uses only civil rights cases as a control (nature of suits 441, 444), which are always treated by fee-shifting over the sample period. The figure on the right uses the contract cases (nature of suits 110, 120, 130, 160) which are never treated by fee-shifting) The source of the data is the Federal Judicial Center Integrated Database.

Figure E16: Historical Regressions of Civil Litigation Intensity



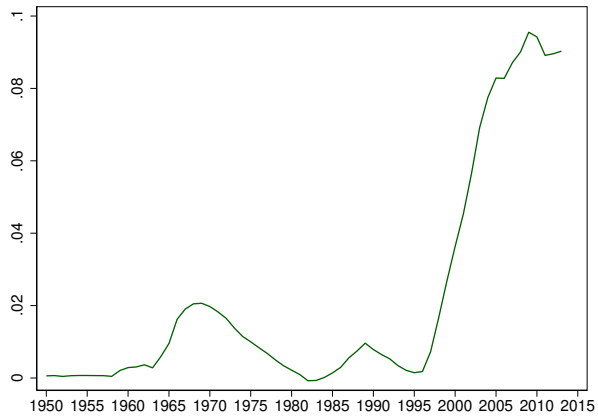
(a) Raw Data

	Δ Civil Cases Per Capita$_t$ (1)
Δ Fee Shifting Statutes Per Capita$_{t-5}$	0.631***
	(0.138)
Δ Top Marginal Tax Rate$_{t-5}$	0.055
	(0.158)
Δ Top Corporate Tax Rate$_{t-5}$	-0.104
	(0.096)
Δ Firms Per Capita$_{t-5}$	-0.061
	(0.101)
Δ Patent Application Intensity$_{t-5}$	0.114
	(0.109)
Observations	91
R^2	0.40
Sample	1913-2013

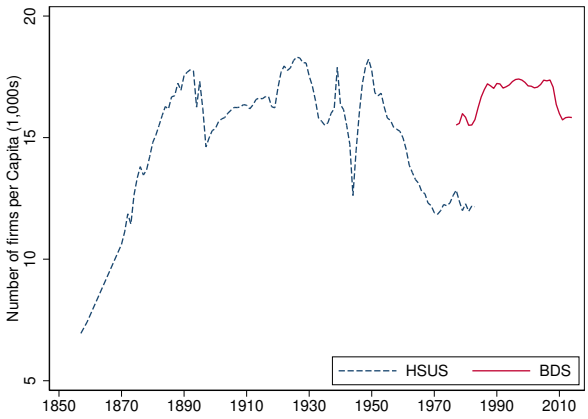
(b) Regression

Notes: This figure and table report the relationship between civil cases per capita and fee-shifting statutes per capita. The dependent variable is measured as the change from t to $t+5$ while the independent variables are changes from $t-5$ to t. We compute Newey-West standard errors that allow for autocorrelation up to 5 lags and that are robust to heteroscedasticity

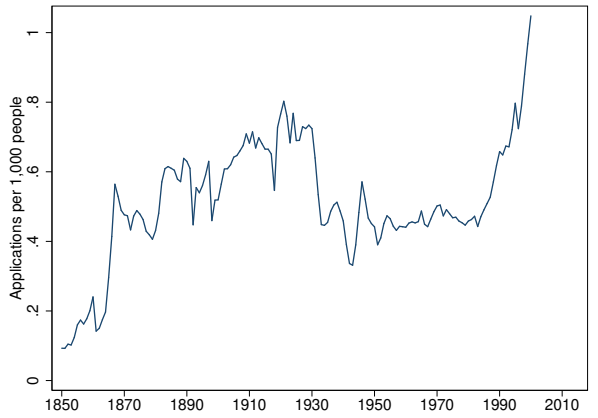
Figure E17: Alternative Explanations



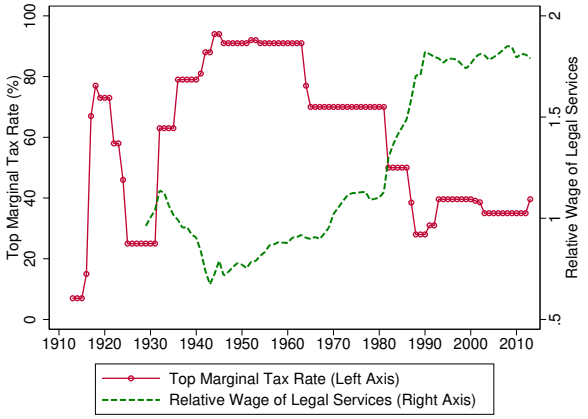
(a) Relative ICT intensity in Legal Services



(b) Number of Firms per Capita



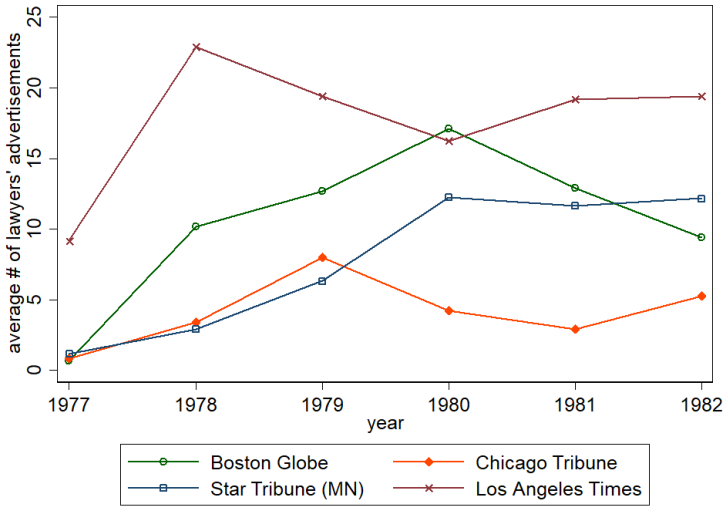
(c) Patent Application Intensity



(d) Top Marginal Tax Rates

Notes: Information and Communications Technology (ICT) intensity is calculated using data from the Bureau of Economic Analysis fixed assets tables. ICT intensity is measured as a share in the total capital stock. Relative ICT intensity of legal services is the ICT intensity of legal services, divided by the ICT intensity in total. All measured in constant 2009 prices. Number of firms in 1857–1983 is from the Historical Statistics of the United States (HSUS), and in 1977–2014 is from the U.S. Census' Business Dynamics Statistics (BDS). The number of firms in the HSUS are originally collected by the firm Dun & Bradstreet. Both firm counts are normalized by total U.S. population. Patent application intensity reports number of utility and design patent applications (source: U.S. Patent Office) divided by U.S. population in thousands. The top marginal tax rate series is the top marginal rate that applies to married couples filing jointly (source: U.S. Internal Revenue Service, IRS). The relative wage in legal services is the same as in Figure 1 and Figure 2(a)).

Figure E18: The Evolution of Legal Advertising Post-Bates



Notes: This figure shows the average number of legal advertisements in 4 newspapers, over a span of 6 years. We collect the data manually. For each newspaper, we sample the third week of January, April, July, and November. We take two days from that week, Wednesday and Saturday. Then we record the number of advertisements for lawyers that day. Figure E19 shows examples of these advertisements. Source: `Newspapers.com`.

Figure E19: Examples of Legal Advertisements



(a) Boston Globe (b) Chicago Tribune (c) Star Tribune (MN) (d) Los Angeles Times

Notes: This figure shows examples of legal advertisements in the 1977-1982 period (immediately after the ABA changed their policy on legal advertising. Source: `Newspapers.com`.

Figure E20: LSAT Takers, Enrollment and Law Degrees Awarded

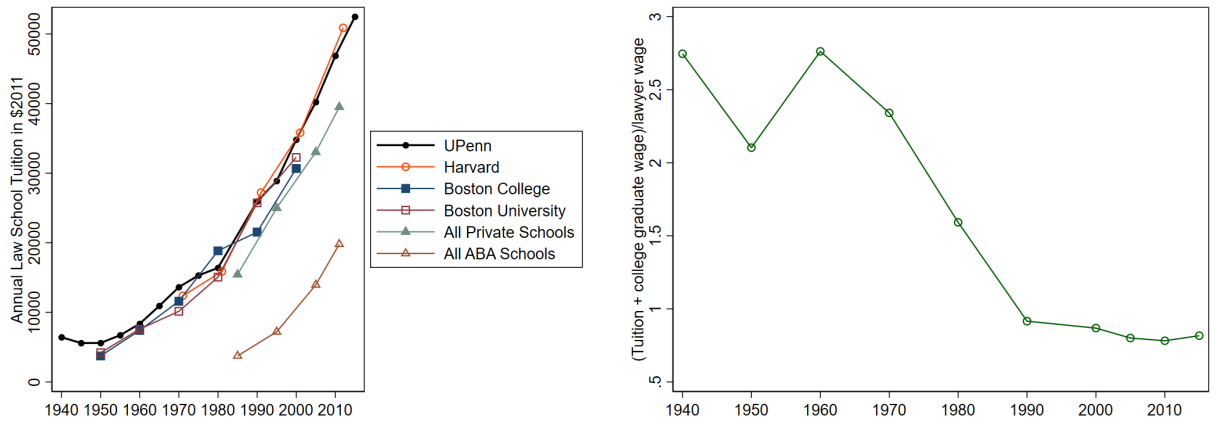


(a) LSAT Takers to Enrollment Ratio

(b) Law Degrees Awarded to Enrollment Ratio

Notes: Panel (a) reports the ratio of Law School Admission Test (LSAT) takers to enrolled students in law schools. Panel (b) reports the ratio of law school degrees awarded to the cohort enrolled three years before (years denote year of enrollment). Data on the number of LSAT takers are from the following sources: White (1984) for 1947–1982, the Manhattan Review (LSAT Prep Courses & Tutoring) for 1950, 1961, 1970, 1980 and 1985, and the Law School Admission Council (LSAC, which administers the LSAT from 1982) for for 1987 and on. Data on enrollment and degrees awarded are from the American Bar Association (ABA).

Figure E21: Law School Tuition and Relative Cost

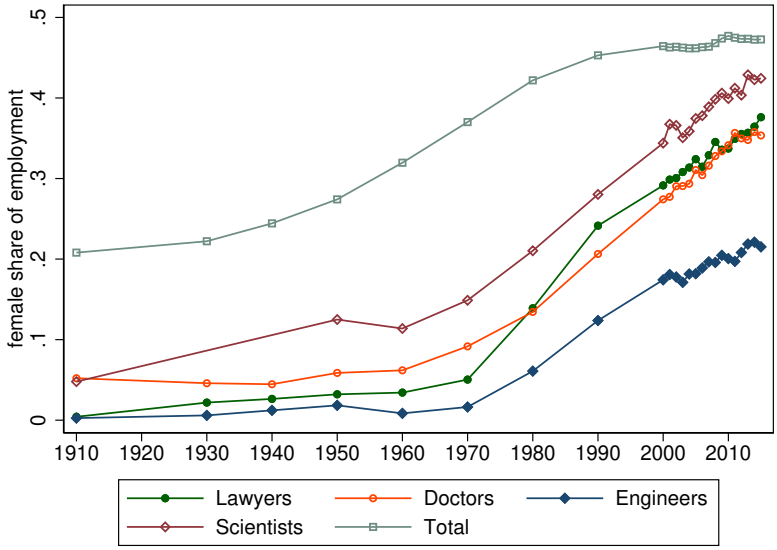


(a) Law School Tuition

(b) Opportunity Cost to Expected Wages Ratio

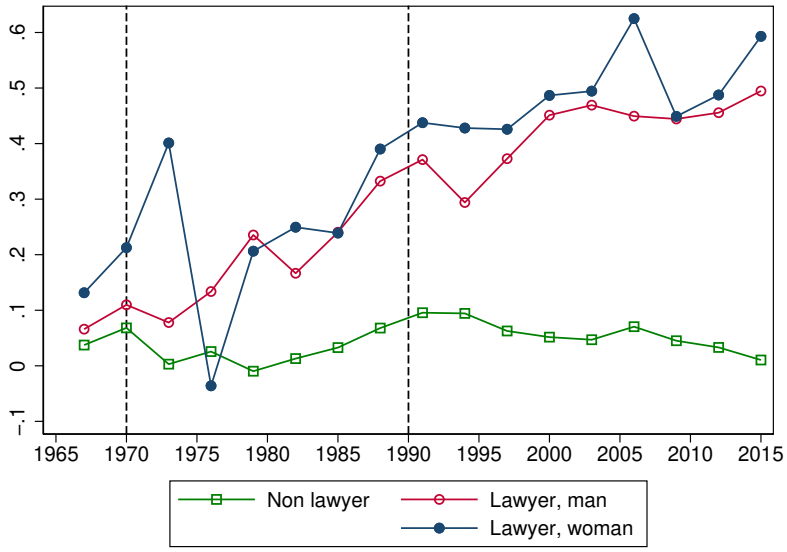
Notes: Panel (a) shows the annual law school tuition across a set of law schools that we can find data. Tuition is normalized to 2011 dollars. Panel (b) shows the "relative cost" of law school. We calculate the opportunity cost of one year of law school as Tuition + the average wage for a college graduate in year t. Then, we divided it by expected wages, as approximated by the average wage for a lawyer in year t. We use UPenn law school tuition rates, because this is the longest coverage we have on tuition. UPenn tuition rates come directly from the school archive (`https://archives.upenn.edu/exhibits/penn-history/tuition/`). The other tuition series come from academic papers (Cass & Garvey, 2003; Campos, 2012). Wages of lawyers and college graduates from the Census and ACS.

Figure E22: Women in Law



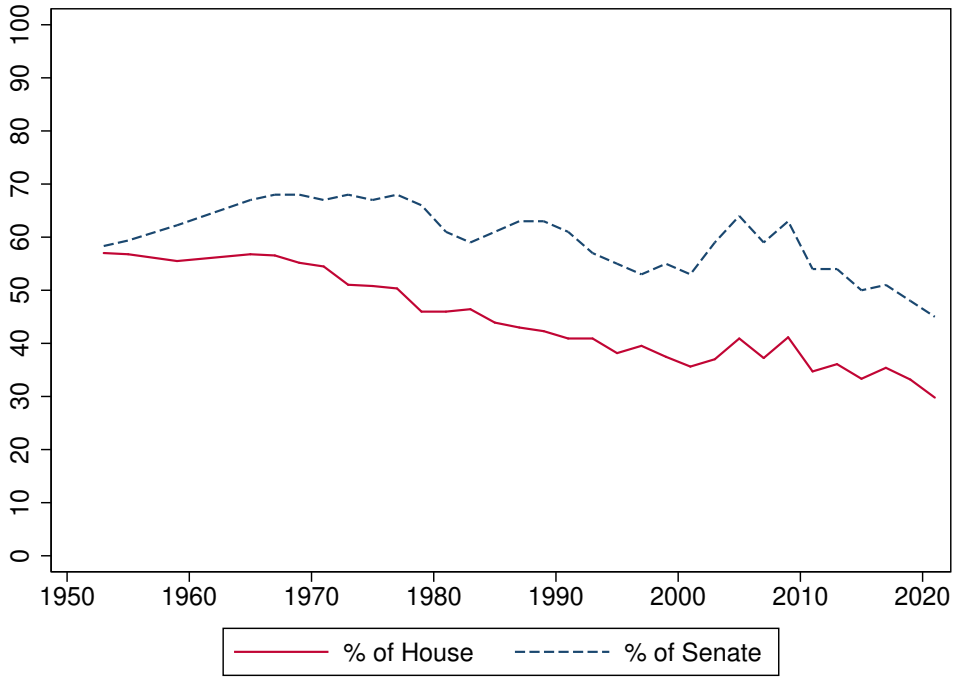
Notes: This figure shows the share of lawyers that are women, compared to total employment and other high-skilled professions (doctors, natural scientists, and engineers). Source: U.S. Census and ACS.

Figure E23: Wage Premium for Female Lawyers



Notes: The figure displays the estimates of the wage premium for male and female lawyers, and for non-lawyers. The figure shows the coefficients from estimating equation an equation like (2) for each three year period, t, where we include a coefficient α_t^{male} for male lawyers in legal services and α_t^{female} for female lawyers in legal services, and β_t captures, as before, the wage premium for non-lawyers working in legal services. The estimates are noisy in the first few years because there are so few female lawyers in the CPS sample; before 1979 less than 10% of lawyers in the sample are female. The dependent variable is log(annual wages). Source: CPS March Annual Supplement, 1968-2017.

Figure E24: Lawyers in Congress



Notes: This figure shows the percentage of members of the U.S. congress—house representatives and senators—that are trained as lawyers. Source: Brookings Institution's *Vital Statistics on Congress*.

G Supplemental Tables

Table F1: Decompositions of changes in employment shares across states

A. Legal Services

Period	Change	Between, %		Within, %	
1880-1910*	-0.023	-0.001	5	-0.022	95
1910-1930	0.079	0.015	19	0.064	81
1930-1950	-0.069	0.005	-7	-0.073	107
1950-1970	0.107	-0.002	-2	0.109	102
1970-1990	0.584	-0.007	-1	0.591	101
1990-2010	0.026	-0.009	-36	0.035	136

B. Lawyers

Period	Change	Between, %		Within, %	
1880-1910*	-0.105	-0.001	1	-0.104	99
1910-1930	0.021	0.008	38	0.013	62
1930-1950	-0.066	0.003	-4	-0.068	104
1950-1970	0.029	-0.001	-5	0.031	105
1970-1990	0.237	-0.006	-2	0.243	102
1990-2010	0.011	-0.007	-62	0.018	162

Notes: The table reports decompositions of the Change in aggregate employment shares across states, using equation (1). We use employment of legal services and lawyers in legal services as a share of total employment in the economy. Change = Between + Within. The % are the percent of Between or Within in Change. *The Census of 1890 is not available. Sources: authors' calculations based on data from U.S. Censuses (1880-2000) and American Community Surveys (2010).

Table F2: Decompositions of changes in relative wages

A. Legal Services: Occupations

Period	Difference	Between, %		Within, %	
1940-1950	-0.140	-0.013	10	-0.127	90
1950-1960	-0.141	0.004	-3	-0.145	103
1960-1970	0.102	0.000	0	0.101	100
1970-1980	0.189	-0.023	-12	0.212	112
1980-1990	0.586	-0.029	-5	0.615	105
1990-2000	0.094	-0.012	-13	0.107	113
2000-2010	0.140	0.038	27	0.103	73

B. Legal Services: Geography, across states

Period	Difference	Between, %		Within, %	
1940-1950	-0.141	0.025	-18	-0.167	118
1950-1960	-0.140	-0.008	6	-0.131	94
1960-1970	0.102	0.002	2	0.100	98
1970-1980	0.189	0.003	2	0.186	98
1980-1990	0.586	0.008	1	0.577	99
1990-2000	0.094	-0.008	-8	0.102	108
2000-2010	0.140	-0.001	-1	0.141	101

C. Lawyers: Geography, across states

Period	Difference	Between, %		Within, %	
1940-1950	-0.087	0.028	-33	-0.115	133
1950-1960	-0.065	0.013	-20	-0.079	120
1960-1970	0.214	-0.001	-1	0.216	101
1970-1980	0.415	0.014	3	0.401	97
1980-1990	1.156	0.014	1	1.142	99
1990-2000	0.247	0.005	2	0.242	98
2000-2010	0.131	0.009	7	0.122	93

Notes: The table reports decompositions of the Change in relative wages of legal services (panel A and B) or relative wages of lawyers in legal services (panel C), using equation (2). We use top-coded wages, using the 1.5 top coding adjustment in all years pre-2003. Relative wages are relative to non-legal wages in the private sector. Panel A decomposes relative wage in legal services over legal services employment shares of occupations. There are four occupations we consider: Lawyers, Clerical Workers, Paralegals, and Other. Other encompasses everyone not in the first 3 classifications. Panels B and C decompose relative wages over states. Change = Between + Within. The % are the percent of Between or Within in Change. Sources: authors' calculations based on data from U.S. Censuses (1940-2000) and American Community Surveys (2010).

Table F3: Decomposition of changes in fields of law across states, 1972-1992

Field	Difference	Between, %		Within, %	
Banking	0.019	0.000	2.1	0.018	97.9
Corporate	0.016	-0.006	-38.2	0.023	138.2
Criminal	0.011	0.000	2.5	0.011	97.5
Domestic	0.007	0.000	1.7	0.007	98.3
Insurance	0.035	0.002	5.0	0.033	95.0
Negligence	0.049	0.000	-0.9	0.049	100.9
Patent	0.000	0.000	53.0	0.000	47.0
Real Estate	0.007	0.000	4.5	0.007	95.5
Taxation	-0.003	-0.001	16.0	-0.003	84.0
Wills	-0.023	-0.002	7.1	-0.021	92.9
Other	0.130	0.002	1.6	0.128	98.4
General	-0.249	0.004	-1.5	-0.253	101.5

Notes: These are calculating using MSA totals of lawyers by field from the Census of Service Industries. The MSA level data are aggregated to the state-level. The sample is limited to include only MSAs which were included in the Census publication in 1972 and 1992. We end up with 42 MSAs over 28 states (see Appendix Table F4 for a list of the MSAs and states). This means that the differences in 1972 and 1992 shares (ΔF) will not exactly match the changes we would calculated if we used the U.S. total data (Table 3). More details on the data source and construction of the sample are included in Appendix A.

Table F4: Sample for Field Decompositions

State No.	State	MSA
1	AL	Birmingham
2	AZ	Phoenix
3	CA	Los Angeles-Long Beach
	CA	Sacramento
	CA	San Francisco-Oakland
4	CO	Denver-Boulder
5	CT	Hartford
6	DC	Washington
7	FL	Jacksonville
	FL	Orlando
8	GA	Atlanta
9	IL	Chicago
10	IN	Indianapolis
11	KY	Louisville
12	LA	New Orleans
13	MA	Boston
14	MD	Baltimore
15	MI	Detroit
16	MO	Kansas City
	MO	St. Louis
17	NC	Charlotte-Gastonia
18	NJ	Newark
19	NY	Albany-Schenectady-Troy
	NY	Buffalo
	NY	New York
	NY	Rochester
	NY	Syracuse
20	OH	Cincinnati
	OH	Cleveland
	OH	Columbus
21	OK	Oklahoma City
	OK	Tulsa
22	OR	Portland
23	PA	Philadelphia
	PA	Pittsburgh
24	TN	Memphis
25	TX	Dallas-Fort Worth
	TX	Houston
	TX	San Antonio
26	UT	Salt Lake City-Ogden
27	VA	Norfolk-Virginia Beach-Portsmouth
28	WI	Milwaukee

Notes: This is the set of MSAs for which we have data on field of law in both 1972 and 1992. There are 42 MSAs and 27 states plus the District of Columbia. These states make up the sample for the decomposition in Table F3.

Table F5: Timeline of Legislative Acts and Deregulation Events

Event	Date	Industry
Civil Rights Act	1964	Social Regulation
Voting Rights Act	1965	Social Regulation
Fair Housing Act	1968	Social Regulation
National Environmental Policy Act	1969	Social Regulation
Federal Communications Commission (FCC) Court Decisions	late 1960s-mid 1970s	Telecommunications
Occupational Health and Safety Act	1970	Social Regulation
Clean Water Act	1972	Social Regulation
Consumer Safety Act	1972	Social Regulation
CAB Liberalization of Entry and Discount Fare Experiments	mid 1970s	Airlines
Securities Acts Amendments	1975	Brokerage
Hart-Scott-Rodino Antitrust Improvements Act	1976	Antitrust
Execunet Decision	1977	Telecommunications
Airline Deregulation Act	1978	Airlines
Natural Gas Policy Act	1978	Natural Gas
ICC Liberalization of Truck Rates	late 1970s	Trucking
ICC Liberalization of Rail Rates and Contracting	late 1970s	Railroads
FCC Rulemakings and other Regulatory Proceedings	late 1970s	Cable Television
Decontrol of crude oil and refined products	starts in 1979	Petroleum
Motor Carrier Reform Act	1980	Trucking
Staggers Rail Act	1980	Railroads
Depository Institution Deregulation and Monetary Control Act	1980	Banking
Regulatory Flexibility Act	1980	Small Business
AT&T Settlement	1982	Telecommunications
Garn-St. Germain Depository Institutions Act	1982	Banking
Cable Television Deregulation Act	1984	Cable Television
FERC Order 1985	1985	Electric
Bus Regulatory Reform Act	1989	Bus
Americans with Disabilities Act	1990	Social Regulation
Civil Rights Act	1991	Social Regulation
FERC Order 1992	1992	Electric
Energy Policy Act	1992	Electric/Natural Gas
Telecommunications Act	1996	Telecommunications
FERC Order 1996	1996	Electric
Cramm-Leach-Bliley Act	1999	Banking

Notes: This is a timeline for the legislative acts and deregulation events discussed in Section 3 and visualized in Figure 6(a). The sources for the deregulatory events are Kearney & Merrill (1998) and Winston (1998).

Table F6: Nature of Suit in Civil Cases: 1970-1990

	% of Civil Cases		
Category	1970	1990	Δ
Civil Rights	5.52	9.13	3.61
Prisoner Petitions	17.92	20.80	2.88
Labor	4.66	6.71	2.05
Social Security	1.86	3.18	1.33
Real Property	3.61	4.39	0.78
Property Rights	2.46	2.65	0.18
Contracts	20.16	20.13	-0.03
Other Statutes	15.66	14.02	-1.64
Torts	28.06	18.98	-9.08

Notes: The table shows the per-capita civil filings, by nature of suit, in 1970 and 1990. The source of the data is the Federal Judicial Center Integrated Database. The nature of suit are defined by the federal court, and the plaintiff is required to choose a nature of suit when they file. There are 12 primary categories, as well as an "Other Statutes" catch-all. We include categories with less than 2% of the share of cases with the "Other Statutes" category (this includes Bankruptcy, Federal Tax, Immigration, and Penalty/Forfeiture).

Table F7: Top code thresholds and values in U.S. Censuses and ACS

Year	Top code wage threshold	Top code wage value
1940	$5,001	$5,001
1950	$10,000	$10,000
1960	$25,000	$25,000
1970	$50,000	$50,000
1980	$75,000	$75,000
1990	$140,000	State median of wages above threshold*
2000	$175,000	State mean of wages above threshold*
2001-2002	$200,000	State mean of wages above threshold*
2003-	99.5th Percentile in State	State mean of wages above threshold*

Notes: 1940-2000 are U.S. Census years, 2001 and on are American Community Survey (ACS) years. *Top coded wage value is the state median or mean of values strictly greater than the corresponding top code wage threshold. For example, in 1990 an individual's wage that was originally reported as being greater than $140,000 was coded as the median over values strictly greater than $140,000 within that individual's state of residence.

Table F8: Top coded employees and share of wage bill that is top coded

	Percent of top-coded workers					Percent of wage bill that is top coded, before adjustment				
	Private Sector	Legal Services	Non-lawyers in Legal Services	Lawyers in Legal Services	Lawyers in Private Sector	Private Sector	Legal Services	Non-lawyers in Legal Services	Lawyers in Legal Services	Lawyers in Private Sector
1940	0.05	0.11	0.07	0.15	1.15	0.34	0.81	0.50	1.18	2.56
1950	0.68	2.04	0.15	3.72	15.99	3.64	12.72	0.73	29.23	33.29
1960	0.27	0.65	0	1.14	4.99	2.02	6.40	0	12.40	13.27
1970	0.18	0.49	0	0.94	3.76	1.55	4.96	0	9.18	11.22
1980	0.44	1.80	0.04	3.56	4.81	2.91	11.70	0.36	18.94	12.68
1990	0.62	3.64	0.15	7.79	8.37	5.80	22.65	1.45	33.41	23.98
2000	1.06	4.68	0.45	9.93	16.43	10.86	30.68	4.94	43.56	44.51
2001	0.84	4.33	0.43	9.49	13.02	9.04	28.13	4.29	41.03	36.53
2002	0.86	4.62	0.33	10.67	14.72	9.03	29.73	3.52	43.91	41.21
2003	0.90	4.91	0.45	11.14	15.30	8.39	28.27	4.19	40.76	37.66
2004	3.32	13.06	1.71	27.51	45.11	18.47	46.87	9.58	66.54	71.90
2005	0.92	4.93	0.44	10.84	16.23	9.06	28.50	4.59	40.30	39.80
2006	0.90	5.56	0.49	12.16	14.99	8.99	31.41	5.06	43.68	35.77
2007	0.91	5.09	0.37	10.81	15.21	9.27	29.27	3.72	40.61	38.81
2008	0.88	5.67	0.39	12.07	14.56	9.05	32.03	4.11	43.85	38.58
2009	0.95	6.00	0.46	12.57	16.20	9.24	31.68	4.42	43.07	40.15
2010	1.19	7.26	0.68	15.08	20.15	10.31	35.37	6.06	47.96	45.67
2011	1.17	6.99	0.44	14.31	20.87	10.35	33.94	4.04	45.88	47.82
2012	1.18	6.27	0.45	12.81	21.75	10.42	31.67	3.72	43.43	47.35
2013	1.19	7.02	0.65	13.96	19.21	11.09	35.11	5.86	46.73	45.47

Notes: The table reports the percent of employees that are top coded and their corresponding unadjusted wage bill share in the Censuses (1940-2000) and in the ACS (2001 and onwards). The unadjusted top coded wage bill share sums all top coded wages, and then divides by the total wage bill.

Table F9: Fee-shifting by category, statutes passed during 1970–1990

Category	Number	Percent
Economic Regulation	12	9.1
Consumer Protection	10	7.6
Consumer Safety	6	4.6
Environmental Protection	24	18.2
Civil Rights	9	6.8
Employment	18	13.6
Sunshine and Privacy	7	5.3
Abuse of Process	3	2.3
Federal Liability for Fees	11	8.3
Intellectual Property	4	3.0
Debtors' Estates	1	0.8
Supervisory and Monetary Limitations	7	5.3
Common Fund/Substantial Benefit	4	3.0
Indemnification	11	8.3
Federal Agency Participation	5	3.8
All	132	100.0

Notes: The table reports the number of fee-shifting statutes, by category, passed between 1970 and 1990. The first 6 categories are what we classify as "public interest litigation", and this makes up just over 60% of the total number of statutes passed in this period. The classification and timing of the passage of these statutes are collected from Derfner & Wolf (2012).

Table F10: State Regressions by Field of Law

Field of Law:	Domestic Law			"Other" Law			Banking Law		
	Log(Emp)_t	Sh. Law_t	Sh. Tot_t	Log(Emp)_t	Sh. Law_t	Sh. Tot_t	Log(Emp)_t	Sh. Law_t	Sh. Tot_t
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
$\text{Divorce Dereg.}_{t-5}$	1.068***	0.797***	0.005***						
	(0.117)	(0.204)	(0.001)						
$\text{Wrongful Discharge}_{t-5}$				1.016***	11.078***	0.041***			
				(0.069)	(1.247)	(0.004)			
$\text{Banking Dereg.}_{t-5}$							0.840***	1.692*	0.009***
							(0.229)	(0.971)	(0.003)
Within R-squared	0.41	0.10	0.14	0.44	0.37	0.01	0.04	0.02	0.01
Observations	140	140	140	140	140	140	140	140	140
Mean Dependent Var.	4.147	2.071	0.005	6.784	26.188	0.097	4.985	4.563	0.013

Notes: This table presents the results of a set of state-year level regressions of employment in a certain field of law on lagged state legislation and regulation status. State fixed effects are included in all specifications. The outcomes are the log of employment or share of lawyers in a given field in state s in year t. The shares are out of total lawyers in the state ("Sh. Law") or total employment in the state ("Sh. Tot"). Shares are in percent. The data on fields of law come from the Census of Services, which is available in 1972, 1977, 1982, 1987, and 1992. Therefore, the sample consists of 28 states over 5 years. State-level legislation dates from Mengle (1990), Black & Strahan (2001), Friedberg (1998), Vlosky & Monroe (2002), and Autor et al. (2006). * p< 0.1, ** p<0.05, *** p<0.01.

Table F11: State Regressions by Field of Law, Differences

Field of Law:	Domestic Law		"Other" Law		Banking Law	
	Δ Sh. Law$_t$	Δ Sh. Emp$_t$	Δ Sh. Law$_t$	Δ Sh. Emp$_t$	Δ Sh. Law$_t$	Δ Sh. Emp$_t$
	(1)	(2)	(3)	(4)	(5)	(6)
Δ Divorce Dereg.$_{t-5}$	0.016	0.001				
	(0.251)	(0.001)				
Δ Wrongful Discharge$_{t-5}$			0.375	-0.002		
			(1.395)	(0.003)		
Δ Banking Dereg.$_{t-5}$					1.099	0.003
					(0.897)	(0.002)
Within R-squared	0.00	0.03	0.00	0.00	0.01	0.00
Observations	112	112	112	112	112	112
Mean Dependent Variable	0.327	0.002	4.307	0.038	0.660	0.005

Notes: This table presents the results of a regression of pre-period differences on next period differences. State fixed effects are included in all specifications. The outcomes are the differences in shares for lawyers in a given field in state s, between t and $t+5$. The shares are out of total lawyers in the state ("Sh. Law") or total employment in the state ("Sh. Emp"). The data on fields of law come from the Census of Services, which is available in 1972, 1977, 1982, 1987, and 1992. Therefore, the sample consists of 28 states over 4 time periods of differences. State-level legislation dates from Mengle (1990), Black & Strahan (2001), Friedberg (1998), Vlosky & Monroe (2002), and Autor et al. (2006). Shares are in percents. * p< 0.1, ** p<0.05, *** p<0.01.

Table F12: New Entrants by Year

	Share of Lawyers (%)	
Years	Age $>$ 30	Age $\leq$ 30
1967-69	86.44	13.56
1970-72	74.24	25.76
1973-75	68.21	31.79
1976-78	68.56	31.44
1979-81	68.15	31.85
1982-84	74.62	25.38
1985-87	77.33	22.67
1988-90	79.93	20.07
1991-93	82.49	17.51
1994-96	85.41	14.59
1997-99	85.19	14.81
2000-02	85.89	14.11
2003-05	89.32	10.68
2006-08	91.94	8.06
2009-11	89.50	10.50
2012-14	89.38	10.62
2015-17	88.94	11.06
Total	84.80	15.20

Notes: This table presents the share of lawyers by age. The year is the year of income accrual. These shares help interpret Figure 4(b), which shows how the wage premia evolve for young lawyers. Source: CPS March Annual Supplement, 1968-2017.

Table F13: Uncertainty and Demand for Lawyers

	log(Lawyer Emp. Share)$_t$		log(Legal Emp. Share)$_t$	
	(1)	(2)	(3)	(4)
log(Sh. Contingent Provisions)$_{t-4}$	-2.89***		-3.15***	
	(0.90)		(1.06)	
log(Contingent Provisions)$_{t-4}$		-3.62***		-4.37***
		(1.21)		(1.40)
log(Provisions)$_{t-4}$		3.92**		4.87**
		(1.46)		(1.68)
Sample		1970-2012		
Observations	22	22	22	22
R-squared	0.86	0.87	0.88	0.89

Notes: The table shows the relationship between contingent provisions and employment share of lawyers. The outcome variable is log(Employment share of lawyers in legal services), from the Census/ACS between 1970-2012. The measure is interpolated between census years 1970-80, 1980-90, 1990-2000. The independent variable is the log(Share of contingent provisions) in Column (1), and log(Total Contingent Provisions) and log(Total Provisions) in Column (2). These series are from Ash et al. (2024), and measure contingent provisions, cumulatively. The data are available every 2 years, coinciding with state legislature sessions. The dependent variables are lagged 4 years, and each regression includes lagged controls for top tax rates, firms per capita, and patent application intensity.