Judicial Ideology and Business Dynamics

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Abstract

Using staggered changes in the ideology of U.S. circuit courts, we examine the effect of judicial ideology on U.S. business dynamism. We find evidence that shifts towards more liberal courts, which are commonly viewed as less pro-business, lead to more business entry, job creation and business turnover. The economic turnover driven by liberal courts shifts the composition of firms towards younger businesses. Additional tests suggest that liberal courts raise business dynamism during economic downturns, but decrease business growth in judicially sensitive industries (i.e., industries more exposed to litigation, intellectual property, and labor risks) compared to other industries. Overall, our evidence suggests that conservative courts, act as a barrier to entry for new businesses, but also benefit firms in judicially sensitive industries.

1. Introduction:

A U.S. President has few greater responsibilities than nominating judges to the federal bench. Since federal judges serve lifetime appointments and their decisions mirror the economic and political ideologies of the nominating Presidents, judicial nominations allow the President to shape the business environment for decades to come.[1] This issue has been in the forefront of public discourse in recent years as President Donald J. Trump has appointed Federal judges at a pace second only to President Jimmy Carter. President Trump's nomination of the former Texas Supreme Court Justice Don Willett exemplifies the pro-business agenda of Republican-appointed judges. Justice Willett frequently sides with insurance and oil companies against consumers and employees, and seeks to revive doctrines that support economic liberty at the expense of workers' rights.[2]

In this paper, we examine how changes in judicial ideology impact business dynamics. We focus our attention primarily on how judicial ideology affects business entry, which recent evidence suggests is the primary source of employment and productivity growth in the U.S. economy (see e.g., Haltiwanger, Jarmin, and Miranda 2013; Adelino, Ma, and Robinson 2017; Tian 2018). It is well established that judicial decisions impact the business environment, affecting, for example, stakeholder rights (La Porta et al. 2002), business valuations (Brown, Cookson, and Heimer 2017; Berkowitz, Lin, and Ma 2015), and the growth and protection of business assets, such as intellectual property and product market power.[3] It's also well-established that judges appointed by Democratic presidents are more liberal—i.e., more likely to side with employees, regulators, investors, or other entities over businesses—than judges appointed by Republican presidents (Pinello 1999; Grundfest and Pritchard 2002; Sullivan and Thompson 2004; Spaeth 2006; and Fedderke and Ventoruzzo 2016).

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[1] See, for example, Pritchett (1941); Johnston (1976); Tate (1981); Segal and Cover (1989); and Staudt, Epstein and Wiedenbeck (2006). Recent media coverage includes https://nbcnews.to/3neNfS9, https://nyti.ms/2GBNEgH and https://brook.gs/2GJIWgA. A Fox News headline on February 23, 2020 read "[Supreme Court Associate Justice Sonia] Sotomayor issues blistering dissent, says Republican-appointed justices have bias toward Trump administration." This article can be found at https://fxn.ws/3lgCZqF.

[2] See, https://abcn.ws/36uV2VY and https://bit.ly/3jzyCqh on Justice Willett's cases related to oil companies. See https://bit.ly/30B6g7y on Lochner era jurisprudence and https://bit.ly/3nguzl3 on a ruling that struck down state regulations that protected consumers' health and safety. See https://ampr.gs/3lkrm1J and https://bit.ly/34mzbxe on Justice Willett's views on pay equity and torts.

[3] See, for example, Demirgüç-Kunt and Maksimovic (1998); Rajan and Zingales (1998); Kumar, Rajan, and Zingales (1999); and Wurgler (2000).

Despite this evidence, academic literature has yet to address fundamental questions relating to how judicial ideology affects business dynamics, such as business entry and exit. We motivate two non-mutually exclusive predictions regarding the effect of judicial ideology on business dynamics, both of which build off the stylized fact that conservative courts are more pro-business.[4] Liberal courts may decrease new business entry and job creation, and stunt business dynamism if their less business-friendly rulings make starting new businesses less profitable. For instance, it may be less attractive to start or expand a business if stakeholders, such as employees or customers, are more likely to win legal challenges against the firm.[5] Alternatively, liberal judges may lead to more new entrants and job creation. By supporting existing businesses less, liberal judges may lower barriers to new entrants. After all, liberal ideology is known to highly prioritize increased employment (Hibbs 1977), and startups are the primary drivers of job creation.[6]

We empirically test these predictions against the null hypothesis that judicial ideology has no significant effect on U.S. business dynamics. We focus our empirical tests around changes in the ideology of U.S. Courts of Appeals (i.e., the circuit courts). Because the U.S. Supreme court hears only 100-150 of the over 7,000 cases it is asked to review each year, the U.S. circuit courts have the final word on the vast majority of cases relating to corporate labor relations, anti-trust regulation, and other business-related cases. Our empirical setting allows us to separate the effect of judicial ideology from the political or economic landscape. The primary source of variation in judicial ideology that we identify off of relates to circuit court judges transitioning to senior status from full time work, creating a vacancy that the U.S. president must fill.[7] If the president's political party differs from the ideology of the president who originally nominated the vacating judge, it

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[4] Songer (1987) finds that votes cast by Democratic U.S. Court of Appeals judges in labor and anti-trust cases are significantly more liberal than those cast by Republican judges. More recent papers on the subject include Pinello (1999); Grundfest and Pritchard (2002); Sullivan and Thompson (2004); Spaeth (2006); and Fedderke and Ventoruzzo (2016).

[5] In addition to employee-related tort cases, cases on immigration, taxation, unions, monopolistic behavior, collusion, cartels, class action law suits and protections of intellectual property rights can also distort businesses (see e.g., Lazear 1983; Posner 1984; Levenstein and Suslow 2006; Henry and Turner 2006; Cohen, Gurun and Kominers 2016; Huang, Hui and Li 2019).

[6] The timing of any observed effects is also an empirical question, depending in part on what type of cash flows are impacted by judicial ideology. For instance, the timing and extent of effects on entry and survival may differ because entry depends on the present value of all expected cash flows, while the short run exit decision only depends on current revenues and variable costs.

[7] Less common sources of variation in our measure are judges retiring early or new seats vacancies rising due to Acts of the U.S. Congress that expand the circuit court size, the last of which was in 1990. The few promotions to the U.S. Supreme Court do not typically cause variation in our measure of liberal ideology because the president nominating the replacement shares the political party of the president who nominated the judge being promoted.

will create variation in our circuit-year measure of judicial ideology. Furthermore, to ensure that a correlation between judges' decision to move to senior status and the circuit-level business environment do not affect our inferences, we corroborate our main analyses using an intent to treat specification that measures expected changes in judicial ideology with the age distribution of judges ten years earlier.

To understand how variation in judicial ideology affects dynamic business decisions, we regress state-level changes in business outcomes on variables measuring circuit-level changes in liberal ideology during the previous two decades. We control for the prevailing business and economic environment with lagged levels and changes of local economic conditions (including the lagged level of judicial ideology) as well as year and state fixed effects. Thus, we isolate the effect of lagged changes in judicial ideology on current business dynamics, after controlling for any effect those changes (or other factors) may have had on preexisting business conditions.[8]

We identify a strong positive (negative) effect of liberal (conservative) judicial ideology on new business entry for up to 20 years. The largest effects occur in the first five years after a change in judicial ideology, during which we find that a one standard deviation shift toward more liberal ideology predicts a 0.10% annual increase in new business entry. This immediate spike in the number of new entrants is consistent with a model having a spectrum of heterogeneous businesses waiting to enter and liberal judicial ideology representing a positive shock to the net present value of some of those businesses (Kirzner 1973, 1985). In each of the next three five-year periods (i.e., 5 to 20 years after the change in ideology), we find effects that are 40% to 80% of the magnitude of this initial effect.

We also find that transitions toward more liberal ideology are accompanied by immediate spikes in new job creation and job reallocation. A one standard deviation increase in liberal ideology predicts a 0.12% annual increase in new job creation over the first five years, with this effect dropping to approximately half this magnitude for the next fifteen years. In addition, changes toward liberal judicial ideology predicts increases in job reallocation for up to 15 years.

We next examine whether there are offsetting or complementary effects of judicial ideology in terms of business survival or job destruction. We begin by examining the effect of

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8 In the Appendix, we show that our results do not depend on the inclusion of the lagged dependent variables or state fixed effects.

judicial ideology on net business entry, which equals the difference between new business entry and business exits (Bilbiie, Ghironi, and Melitz 2012). We find that during the first five-year period, a one standard deviation increase in liberal ideology predicts a 10% increase in the establishment net entry rate, which corresponds to a 0.17% increase in the total number of establishments. Given that this annual effect accrues for five years, this net effect aggregates to approximately 700 establishments over a five-year period for the typical state which houses approximately 80,000 establishments. Breaking down this effect into single year increments reveals that the positive effect of liberal ideology occurs immediately and persists for approximately five years. The initial increase in net establishment entry is driven by increased establishment entries, not reduced establishment exits.

These findings and several additional analyses suggest that liberal judges reduce barriers to entry and increase economic turnover. For instance, additional tests indicate that liberal changes in judicial ideology lead to significant increases in both job creation and job destruction, and reduced survival rates for new and young businesses. Consistent with the timing of the aforementioned net business entry results, the spike in job creation occurs immediately and is driven primarily by new firm births, while the effect on job destruction does not emerge until more than five years after the change in ideology. These effects culminate with liberal judges predicting a larger share of startups and young firms in the economy. This result is important since new firms are known to be more productive than incumbents conditional on survival (Alon, Berger, Dent, and Pugsley 2018). It therefore points to a reallocation of resources from low-productivity (new or incumbent) businesses to high-productivity businesses, which is broadly consistent with the notion that liberal courts foster creative destruction and business dynamism in the U.S.

Age is not the only dimension along which judicial ideology affects the distribution of firms. Using industry to proxy for several dimensions of judicial sensitivity, including litigation, innovation, and union exposures, we find that these sensitivities to judicial ideology negatively predict the relation between liberal ideology and establishment growth. Thus, liberal courts lead to relatively more firms in what are traditionally considered less judicially sensitive industries. Put differently, firms in litigation-sensitive grow to be larger parts of the economy during more conservative judicial regimes.

Our paper contributes to multiple literatures. First, we contribute to the recent financial economics literature on business dynamism. Since Haltiwanger, Jarmin, and Miranda (2013) pointed directly to new business start-ups as a driver of U.S. job growth, several studies have examined determinants of the decline in U.S. business start-ups over the past few decades (Decker et al. 2016b, Gourio et al. 2014, and Karahan et al. 2016). Pugsley and Sahin (2019) provide evidence that reduced import competition contributes to this startup deficit, which they argue has significantly altered the age distribution of firms, stunted employment growth, and contributed to jobless recoveries. In addition, local economic shocks (Adelino, Ma, and Robinson 2017), labor force growth (Pugsley, Karahan and Sahin 2020), housing shocks (Davis and Haltiwanger 2019) and knowledge diffusion between frontier and laggard firms (Akcigit and Ates 2019) have been linked to the recent dearth of new business start-ups. Also related to this literature are Bernstein, Colonnelli, Malacrino and McQuade (2019) and Bermejo, Ferreira, Wolfenzon and Zambra (2019), which highlight the importance of local population composition, income, and financial development on start-ups. By adding judicial ideology as a new determinant of new business start-ups, our findings raise the possibility that the transition toward more conservative judicial ideology over the past several decades is one contributor to the lack of business start-ups in some geographies.

We also contribute to the growing literature examining the consequences of judicial rulings. Much of this literature examines theses effects on the case level, often exploiting the random assignment of judges. Earlier studies in this literature typically focused on personal outcomes. For instance, Doyle (2008) and Kling (2006) estimate the effects of foster care and incarceration on outcomes later in life, while Dobbie and Song (2015) examine the consequences of personal bankruptcy. More recently, several studies have examined corporate outcomes, to understand the consequences of bankruptcy (see e.g., Chang and Schoar (2013), Bernstein et al. (2019)). Gormley et al., (2020) find that judicial ideology affects the monetary damages judges assign to different types of crimes, Galasso and Schankerman (2015) find that the invalidation of patents from large patentees triggers more follow-on innovation by small firms, and Colonnello and Herpfer (2020) find increased exposure to more business-friendly courts is associated with positive announcement returns.

2. Motivation

Judges work with identical sets of rules and facts, and have similar educational backgrounds, resources, experiences, and capabilities, but they do not see eye to eye on most issues. Remarkably, 60 percent of the Supreme Court's cases since the 1950s comprised judicial dissents (Epstein, Segal, Spaeth, and Walker 2007; Epstein, Landes, and Posner 2013). This substantial divergence in judicial opinion has long been explained by differences in private attitudes such as political ideology (Johnston 1976; Tate 1981; Segal and Cover 1989; Staudt, Epstein and Wiedenbeck 2006). Pritchett (1941) provides some of the first evidence that political ideologies of judges influence their decisions and interpretations of law. A long list of papers have since confirmed that liberal judges—i.e., judges that are assigned by Democratic presidents[9]—vote liberally (i.e., against businesses) more often (Goldman 1966, 1975; Pinello 1999; Dorsen 2006), particularly in cases related to labor relations and economic regulation, in which they are known to favor employees and regulators (Willison 1986; Songer 1987; Kovacic 1991; Smith and Tiller 1996; Revesz 1997; Wahlbeck 1997; and Cross and Tiller 1998).

Epstein, Landes, and Posner (2013) confirm that liberal (conservative) votes by conservative judges amounted to 36.4% (55.0%) of all votes between 1925 and 2002, whereas liberal (conservative) votes by liberal judges amounted to 43.3% (48.9%). Segal (2008) separates court of appeals cases into seven categories (criminal, civil rights, First Amendment, due process, privacy, labor relations, and economic) and finds that in all but two (First Amendment and privacy) there is a statistically significant effect of liberal ideology on judicial decisions. [10] These findings highlight that although law is broadly accepted as a normative system of rules, judicial

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[9] Presidents are known to lack good information about the ideological proclivities of Supreme Court candidates or make appointments to advance partisan or electoral goals rather than to create ideological legacies. Justices Stone, Brennan, Stevens, and Souter are, for example, liberal judges that are appointed by Republican presidents. See, for example, Goldman (1997), and Epstein and Segal (2005).

[10] The liberal votes by judges appointed by Jimmy Carter and Bill Clinton judges amounted to 45.5% and 46.1% of all votes on economic and labor-related cases, whereas liberal votes by Ronald Reagan and George H. W. Bush judges amounted to only 38.3% and 35.1%. Songer (1987) finds that in labor cases, 57.0% of the votes cast by Democratic judges were liberal compared to 52.0% for Republican judges—a difference which is significant at the .001 level. In antitrust policy, Democrats also cast liberal votes more frequently than their Republican counterparts: a statistically significant difference of 42.7% compared to 38.5% at the .01 level.

determinations are frequently made on the basis of political ideology rather than a simple application of rules or facts.

The influence of political doctrine on judicial decisions can impact economic outcomes in a number of ways. Liberal judges can differentially evaluate the liabilities of a firm for the torts of its employees, regulations of occupational health and safety, employees' rights under the pension-regulation law, or employee immigration rights compared to conservative judges (Posner 1984). Different political perspectives can also yield very different outcomes in cases related to the economics of taxation, unions, monopolistic behavior, collusion, cartels, class action law suits and the protections of intellectual property rights (Lazear 1983; Levenstein and Suslow 2006; Henry and Turner 2006; Cohen, Gurun and Kominers 2016; Huang, Hui and Li 2019). For these reasons, judicial political ideology can not only impact existing businesses (Dunworth and Rogers 1996) but also directly affect business entry and exit.

2.1 Hypothesis Development and Empirical Predictions

The aforementioned literature suggests that the court system is both important for the business environment and impacted by judicial ideology. Even if these findings are taken at face value, this literature provides little insight into how judicial ideology affects business decisions. In this paper, we empirically examine this question, primarily in the context of entry and exit. Not only are these outcomes fundamental to firms, but recent literature also documents that they are first order drivers of U.S. employment growth (see e.g., Haltiwanger, Jarmin, and Miranda, 2013; Adelino, Ma, and Robinson, 2017; Tian, 2018).

Because these decisions are dynamic, it is most constructive to consider how these decisions respond to changes in judicial ideology.[11] We motivate two sets of hypotheses regarding the possible effect of judicial ideology on firm and business entry and exit, which we test against the null hypothesis that judicial ideology has no significant effect on business dynamics. Both hypotheses are motivated directly from the literature suggesting that liberal courts are less likely than conservative courts to rule in favor in businesses as opposed to other stakeholders.

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[11] We also control for and discuss the possibility that the level of judicial ideology may impact the business environment throughout our empirical tests.

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A broad interpretation of the literature suggesting that conservative courts are more business friendly motivates our first hypothesis, which we label *Conservative Growth*. Under the *Conservative Growth Hypothesis*, a more liberal court ideology will make less business-friendly rulings and therefore make businesses less profitable. For instance, businesses may become less profitable if stakeholders, such as employees or customers, are more likely to win legal challenges against the firm. Empirically, this hypothesis predicts that increases in liberal court ideology will generate less firm and establishment entries along with more firm and establishment exits. Extending the empirical predictions beyond our main outcomes of entry and exit, the above logic would also predict that more liberal courts will lead to less job creation and more job destruction.

It is alternatively possible that conservative courts' pro-business rulings hurt economic growth. The *Liberal Growth Hypothesis* predicts that conservative courts will reduce business entries, lead to less job creation, and more business exits. This hypothesis is possible if the pro-business rulings of conservative courts primarily benefit existing businesses. For instance, conservative courts more rigidly protecting intellectual property and enforcing anti-trust laws may act as a barrier to entry, leading to less overall economic growth.

Our third hypothesis is not mutually exclusive from the first two. The *Liberal Turnover Hypothesis* is based on the intuition above that conservative courts may act as barriers to entry by enhancing the competitive advantage of existing businesses. The hypothesis predicts that increases in liberal court ideology will generate more business entries *and* more business exits, and in turn lead to an increase in both job creation and job destruction. A corollary of these effects is that under the *Liberal Turnover Hypothesis* young firms will comprise a larger portion of the economy, with the magnitude of this effect depending in part on the relative survival rate of new entrants and continuing businesses.

The timing over which any of these hypotheses will manifest is an empirical question, depending on what type of cash flows are impacted by changes in judicial ideology. Moreover, because the entry and short-run exit decisions are based on different sets of cash flows, these hypotheses may manifest in entry and exit outcomes at different times. The entry decision is based on the expected present value of all future cash flows. To the extent that firms' expectations regarding the consequences of judicial ideology do not vary much over time, we expect any effect of judicial ideology on firm entry to occur relatively quickly. This outcome is expected if, for

example, there are firms waiting to enter and a change in judicial ideology is a shock to the expected future cash flows of these businesses.

The exit decision is more complicated because it requires separating short- and long-run effects, where the short-run is defined as a period over which firms cannot fully adjust their fixed costs of production. In the short-run in a competitive market, a firm's exit decision is determined by whether revenues cover variable costs. Thus, we expect a change in judicial ideology to cause firms to immediately exit only if it affects either revenues or variable costs. In the long run the exit decisions looks more like the entry decision. Firms that are facing negative (positive) profitability shocks will be more (less) likely to exit. To the extent that shocks to judicial ideology affect business operations through channels other than current revenues or variable costs, we expect any exits caused by changes in judicial ideology to occur with some lag.

Additionally, the influence of liberal ideology on business entry may vary over economic cycles. More specifically, since liberal judges prioritize increased employment (Hibbs 1977) and startups are the primary drivers of job creation (Haltiwanger, Jarmin, and Miranda 2013), the influence of liberal judges on business entry and job creation may be stronger during economic downturns. Therefore, *Liberal Growth Hypothesis* (or *Turnover Hypothesis*) may be more prevalent during these periods. On the other hand, during times of strong economic growth, unemployment may not be a first-order concern for liberal judges. In accordance with this, we might observe *Conservative Growth Hypothesis* dominate during expansionary periods.

3. Identification Strategy and Data Description

We empirically examine the effect of judicial ideology on business dynamics, with our primary outcomes of interest relating to the entry and exit decisions of firms. A challenge in answering this question is that judicial ideology may be correlated with other factors that determine business dynamics. In particular, in many settings it is difficult to separate the effects of judicial ideology from the effects of the political landscape on economic conditions. State judges are typically either elected or appointed by elected officials and Federal judges are appointed by the president, subject to the approval of the U.S. Senate. Thus, the consequences of the appointment of State or U.S. Supreme Court judges are hard to separate from the effects of the nominating governor or president.

We mitigate these empirical challenges by examining the consequences of Federal judge appointments to the U.S. Court of Appeals (i.e., the U.S. Circuit Courts). The U.S. Federal Court system is divided into eleven circuits. Figure 1, obtained from the U.S. Courts website, presents the geographic boundaries of each of the eleven U.S. circuit courts.[12] The number of judges on each court differ (based on factors such as case load and population) and are determined by U.S. Congress, although the judges allotted by Congress have not changed since 1990.

3.1. Measuring Changes in Judicial Ideology

To determine the ideology of the U.S. circuit courts over time, we obtain data on every Federal judge appointed since 1900 from the Federal Judicial Center's website. These data include judge's birth dates, their appointment dates, the date they transitioned to senior status, and the date they left their position. As is common in the literature (see e.g., Pinello (1999), Huang, Hui, and Li (2019)), we categorize a judge as liberal if they were appointed by a Democratic president.

We measure the ideology of the circuit court based only on the judges on active duty, meaning that we do not count judges with senior status in our measure.[13] Within this set of judges our measure captures the probability that the majority of a three judge panel will be liberal (i.e., comprised of judges nominated by Democratic presidents). Similar to Sunstein, Schkade, and Ellman (2004) and Huang, Hui, and Li (2019) we compute the liberal count in circuit j at time t as,

$$Liberal\ Count_{j,t} = \frac{[C(x,3) + C(x,2) \times C(y-x,1)]}{C(y,3)} \, , \tag{1}$$

where $C(n,r)$ is a binomial coefficient indicating the number of possible combinations of r objects from a set of n distinct objects, x is the number of Democratic appointees in the circuit, and y is the total number of judges in the circuit. We compute $Liberal\ Count$ as of March 12 of each year such that it aligns with our outcomes of interest, which we discuss below.

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[12] This breakdown has been in place since well before the beginning of our sample period, except that the 11th and 5th circuits split to form the 11th circuit in 1980. There are a variety of ways to treat this change in circuit structure in our empirical measures and adjustments along these dimensions have little effect on our findings. Our results are also similar dropping the 5th and 11th circuits from the analysis.

[13] We do this in part because senior judges frequently attend cases outside their districts and therefore complicate inference (Epstein, Landes, and Posner 2013). We do this also because the extent to which a judge with senior status hears cases is variable and potentially related to how their views align with the current political landscape. Since many senior judges do in fact hear cases, we do not perfectly identify the number and ideology of judges taking cases, however the variation we do not capture is likely endogenous to our outcomes of interest. As we discuss in Section 3.3, we also conduct an intent to treat analysis using a different source of variation in judicial ideology.

Although we include the lagged value of Liberal Count as a control variable throughout our analyses, our main explanatory variables of interest are changes in Liberal Count, defined as

$$\Delta Lib.Ct._{j,[t-x,t-y]} = Liberal\ Count_{j,t-x} - Liberal\ Count_{j,t-y} \qquad (2)$$

In our regression specifications, we include four variables that each measure $\Delta Liberal\ Count$ over non-overlapping five year periods, going backward from $\Delta Liberal\ Count_{[t,\ t-5]}$. This allows us to identify any short- or long-run effects of changes to judicial ideology. We also replicate our main analyses with figures that further decompose lagged liberal changes into their year-by-year components.

3.2. Sample Description and Regression Specification

To identify the effect of changes in judicial ideology on changes in the business environment we employ a sample of 1900 state-year observations that runs from 1979 through 2016 with 50 observations per year. For this state-year panel we collect economic data from the Business Dynamics Statistics (BDS), part of the U.S. Census Bureau. The BDS data begin in 1977 and end in 2016. Our sample begins in 1979 because our dependent variables are computed as year-over-year changes and we often control for the lagged dependent variable. However, as we explain above our explanatory variables use changes in judicial ideology up to twenty years before the period corresponding to the dependent variable.

The BDS data report a variety of state-level outcomes as of March 12 of each year. From this data we obtain information on the number of establishments, establishment entry and exit, net establishment entry, as well as employment measures, such as the number of jobs created and destroyed. We provide formal variable definitions in caption to Table 1.

Equation 3 below exemplifies the type of regressions we estimate, using the establishment entry rate as a dependent variable.

$$Est\ Entry_{i,[t-1,t]} = \beta_0 + \beta_1 \Delta Liberal\ Count_{j,[t-5,t]} + \beta_2 \Delta Lib.Ct._{j,[t-10,t-5]} +$$
$$\beta_3 \Delta Lib.Ct._{j,[t-15,t-10]} + \beta_4 \Delta Lib.Ct._{j,[t-20,t-15]} + X_{i,t-1}\beta + \gamma_t + \psi_i + \varepsilon_{i,t} \qquad (3)$$

$Est\ Entry\ Rate_{i,[t-1,t]}$ is one of our primary outcomes of interest, capturing the percentage of new establishments in state i from year t-1 to year t. The coefficients of interest are

β_1 through β_4 which estimate the relation between lagged changes in the liberal ideology of circuit j (which houses state i) over the four five-year periods spanning the previous two decades.

We include a variety of controls for economic conditions as of year t-1. Specifically, we include the lagged levels in the state's establishment, firm, and employee count in addition to the state-level population, net job creation rate and lagged percentage change in per capita state gross domestic product. We also control for the lagged level of $Liberal\ Count_{j,t}$, although we expect changes in this variable to be the main driver of changes in business dynamics. Thus, β_1 through β_4 represent the effect of lagged liberal changes on the economy at time t, after controlling for any effect these changes may have had on economic conditions in previous years.

A benefit to our setting is that year fixed effects absorb the average effect of nation-wide economic conditions. This is important because it allows us to plausibly separate the effect of changes in judicial ideology from the business environment effect of the president's political ideology. State fixed effects further control for any unobserved time invariant heterogeneity in business dynamics. We cluster standard errors at the state level.[14]

3.3. Identifying Assumptions and Intent to Treat Analysis

Our identification strategy exploits the fact that the same U.S. president may or may not nominate judges to each circuit in any given year. Our key identifying assumption is that changes in our circuit-level measure of judicial ideology are not correlated with future state-level changes in the business environment for reasons other than a direct effect of judicial ideology. Here, we breakdown the plausibility of this assumption with a discussion of the specific sources of variation in our judicial ideology measure.

Whether a given circuit has a judge nominated in a year generally depends on if a judge leaves the circuit court. Since federal judge appointments are lifetime appointments and few judges are promoted to the U.S. Supreme Court, there is a short list of reasons that judges may leave the circuit courts. The list of reasons that impacts our empirical measure of judicial ideology is even shorter since our measure only considers the ideology of judges prior to their transition to senior status.

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[14] Unreported tests clustering at the circuit level are similar in terms of statistical significance, although this adjustment leaves us with only eleven clusters.

In rare cases judges die, retire, or are promoted before the age of 65.[15] Our measure of judicial ideology will change if and only if the political party of the president who nominated the exiting judge differs from that of the sitting U.S. president at the time of the exit. Since promotions are extremely rare (requiring a move up to the U.S. Supreme Court) and presidents are likely to promote judges that were appointed by presidents of the same political party, endogeneity in the promotion decision is unlikely to affect our findings in any meaningful way. Additionally, deaths (and to a lesser extent retirements) before the age of 65 are likely exogenous circuit-level economic conditions.

It is also possible for our judicial ideology measure to change if Congress passes legislation that changes the number of judge seats on the circuit courts. This happened only twice during our sample period, in 1984 and 1990, and once in 1978 immediately before our sample begins. The most recent legislation in 1990 introduced eleven new seats on the U.S. Circuit Courts, an average of one seat per circuit. Using this Congressional Act as an example, all of these newly created seats would be counted as conservative judges since they are appointed by a Republican president. The extent to which each circuit's ideology changes due to these additions will vary cross-sectionally, but it is unlikely that this variation will be related to future business dynamics (after controlling for the current level and growth in the economy). Nevertheless, we introduce an intent to treat analysis at the end of this section that does not use any variation in judicial ideology coming from newly created seats on the court.

The final and most common source of variation in our data is judges switching to senior status, which most judges become eligible for at the age of 65. If the sitting U.S. President's political affiliation differs from the president who nominated a judge, then our measure of judicial ideology would change following a judge's transition to senior status. A switch to senior status is an attractive option, as senior judges continue to receive full pay and can take a reduced caseload. Despite these apparent benefits, there are many instances of judges deciding not to transition to senior status when they become eligible. Epstein, Landes, and Posner (2013) argue that senior judges need to participate in cases outside their districts. In contrast, active judges almost never do so. Therefore, the necessity to be involved with outside cases could increase the costs of switching

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[15] According to Posner, Gulati and Choi (2011), a judge appointed recently will have a potential de facto term of 30.9 years. Their sample of Supreme Court and circuit court judges, who died in recent years, for example, had an average age of death of 79.6.

to a senior position. Posner, Gulati and Choi (2011) argue that senior judges get some tax benefits, enjoy partial caseload—i.e., 25% to 100% of regular caseload—, but without resigning they cannot accept any private sector pay, and they lose some accoutrements of power—e.g., office, robe, honorific etc.—. In short, the source of variation in our judicial ideology measure is related to whatever drives the judge's decision. If a factor in this decision is the future growth of circuit-level economic conditions (after controlling for nationwide economic conditions and current circuit-level conditions), the judge's selection of exactly when to transition to senior status may affect the interpretation of our coefficients of interest.

To mitigate the possibility that judges' selection of when to transition to senior status (or any potential endogeneity in Congress's introduction of new seats on the circuit courts) impacts our inferences, we replicate our main analyses using an intent to treat specification. Here, we measure expected changes in judicial ideology based on the age distribution of judges ten years earlier. Specifically, we compute

$$\Delta Lib.\,Ct.\,ITT_{j,[t-5,t]} = \left(1 - Liberal\ Count_{j,t-10}\right) \times \left(Dem.\,Pres._{t-5,t}\right) \times$$
$$\%Judge\ 55 - 59_{j,t-10}. \tag{4}$$

The three terms in this measure all positively predict the probability of a positive liberal change between years *t-5* and *t*. To expect a positive liberal change $\left(Liberal\ Count_{j,t-10}\right)$ needs to be low, since a liberal change generally requires replacing a conservative judge with a liberal one. A liberal change also requires having a Democratic president. To that end, $Dem.\,Pres._{t-5,t}$ measures the fraction of years between *t-5* and *t* that have a Democratic U.S. President. Finally, $\%Judge\ 55\ to\ 59_{j,t-10}$ captures the fraction of the court that is approaching the time at which they can elect senior status. Notably, this measure is unaffected by whether judges actually transition to senior status or how many seats end up being on the circuit court ten years later. Importantly, any effect that $\left(Liberal\ Count_{j,t-10}\right)$ or $\left(Dem.\,Pres._{t-5,t}\right)$ may have on changes in the circuit-level business environment are likely controlled for when estimating Equation 3. Specifically, any effect a democratic president has on future business dynamics is controlled for with year fixed effects and lagged circuit-level economic conditions, and we control for lagged Liberal Count throughout our analyses.

We also compute a similar intent to treat measure relating to the judges that would have been expected to obtain senior status between five and ten years ago, based on the age distribution of judges ten years ago. Specifically,

$$\Delta Lib.\,Ct.\,ITT_{\,j,[t-10,t-5]} = \left(1 - Liberal\;Count_{j,t-10}\right) \times \left(Dem.\,Pres._{t-10,t-5}\right) \times$$
$$\%Judge\;60 - 64_{j,t-10}. \tag{5}$$

3.4. Descriptive Statistics

In Panel A of Table 1 we present a correlation matrix of our various measures of changes in liberal ideology. A litmus test for our intent to treat measures is that they correlate positively with actual changes in liberal ideology over the period they are designed to. We find evidence of this as our intent to treat measure $\Delta Lib.\,Ct.\,ITT_{\,j,[t-5,t]}$ has a correlation of 0.46 with $\Delta Lib.\,Ct._{j,[t-5,t]}$. We find similar evidence of a positive correlation between $\Delta Lib.\,Ct.\,ITT_{\,j,[t-10,t-5]}$ and $\Delta Lib.\,Ct._{j,[t-10,t-5]}$ of 0.35. None of our primary measures of changes in liberal ideology have correlations of more than 0.24, however longer-run changes in liberal ideology are negatively related to our intent to treat measures. Thus, we control for these longer-run changes in liberal ideology when conducting our intent to treat analysis.

In Panel B of Table 1 we present descriptive statistics for the variables that we use throughout the analysis. On average, the Liberal Count is approximately 38% meaning that, pooling across state-years, there is a 38% chance that a three-judge panel of circuit judges has a majority that were nominated by Democratic presidents. Unreported statistics indicate that most circuit-year observations have a Liberal Count between 0.2 and 0.8, with this range becoming somewhat tighter over time. As discussed in detail in Huang, Hui, and Li (2019), who use a measure similar to our Liberal Count variable as their primary explanatory variable of interest, there is considerable variation in Liberal Count both in the time series and in the cross section.

The focus of this paper is on the effects of changes in Liberal Count. Table 1 shows that there is little absolute movement in Liberal Count over our sample period as the average $\Delta Lib.\,Ct._{j,[t-5,t]}$ is 0.001. This means that on average changes in liberal count net out over our sample period. More relevant to our identification is that fact that there is within circuit variation in the change in liberal count measures. The standard deviation of our five-year change in Liberal Count measures are between 0.22 and 0.24.

Figure 2 plots year-by-year changes in Liberal Count by circuit over our sample period. Our sample is almost evenly split between Democratic and Republican presidents and these presidential terms jump out from this figure. The periods governed by the three Democratic presidents, which are shaded in dark gray, cover eighteen years, while the three Republican presidents during our sample period serve for twenty years. There are positive changes in Liberal Count during times with Democratic presidents and negative changes when Republican presidents are in office.[16] The direction of this variation is somewhat mechanical, but the extent and timing of this variation differs greatly across the eleven circuits.

The remainder of Table 1 presents descriptive statistics on the outcomes of interest and control variables that we use throughout the analysis. The average *Est Net Entry* of 1.7 corresponds to a 1.7% growth in establishments each state-year. This is comprised of the number of new establishments entrants equal to 12.2% of the beginning of period establishment level and a 10.4% establishment exit rate. Thus, over 20% of establishments turnover each year. Approximately 15% of jobs turnover each year as the average Job Creation Rate is 16.5% and the average Job Destruction Rate is 14.4%. Just over one-third of these job creations (destructions) are due to the birth (death) of firms.

4. Main Results

4.1. Judicial Ideology and Net Business Entry

We begin by investigating how liberal judicial ideology impacts net business entry, by estimating Equation 3 with the net establishment entry rate and the log number of establishments as dependent variables. Because we control for the lagged log number of establishments, both of these estimation procedures amount to examining the relation between changes in judicial ideology and changes in the growth rate of business establishments.

Columns 1 and 2 estimate Equation 3 without control variables, aside from state and year fixed effects and in Column 2 the lagged level of logged establishments. Columns 3 and 4 include additional controls for time varying state economic conditions. The results are qualitatively similar across all four columns. The positive coefficients on $\Delta \text{Lib.Ct.}_{[t-5,t]}$ suggest that a shift toward more liberal (conservative) judicial ideology in the past five years positively (negatively) predicts the

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[16] The few small exceptions to this are due to court vacancies at the time of our annual computation of Liberal Count.

number of establishments in a state-year. Since net establishment entry is expressed in percentage terms the coefficients on $\Delta \text{Lib.Ct.}_{[t-5,t]}$ in Columns 1 and 2 suggest similar economic magnitudes.

Using the estimates in Column 3, a one standard deviation, or 0.22 unit, change in $\Delta \text{Lib.Ct.}_{[t-5,t]}$ is associated with a 0.19 unit or approximately 10% increase in the net establishment entry rate relative to the average establishment net entry rate. This corresponds to a 0.19% increase in the total number of establishments in a state. Given that this annual effect accrues for five years, the aggregate effect of a 0.22-unit increase in liberal count is an approximately 0.96% increase in the number of establishments over a five-year period. For the median state, which has approximately 80,000 establishments over our sample period this amounts to a change of approximately 750 establishments over a five-year period.

We find no consistent relation between net establishment entry and changes toward liberal ideology more than five years ago. There is some evidence of a statistically weak negative relation between changes toward more liberal ideology five to ten years ago and current net entry, but after the inclusion of control variables this countervailing effect is at most marginally significant and is less than half the size of the effect during the first five years. There is also some evidence of a positive relation between changes toward more liberal ideology and net business entry at even longer horizons, but again the statistical significance is marginal.

To get a better idea of the timing with which changes in ideology impact net establishment entry we unpack our five-year measures of changes in liberal ideology. Figure 3 plots these year-by-year coefficients on lagged liberal changes. Aside from this change to a year-by-year measure we use a specification identical to that used in Column 3 of Table 2. On the x-axis is the number of years since the liberal change and on the y-axis is the coefficient estimate for the effect of changes toward more liberal ideology on the net establishment entry rate. The figure indicates that the positive coefficient on $\Delta \text{Lib.Ct.}_{[t-5,t]}$ of 0.85 in Table 2 is driven almost equally by the five individual yearly coefficients, all of which range from 0.5 to 1.2. This result is notable because it shows that there is an immediate spike in net entry the year that the courts shift toward more liberal judges. After a short period of negative point estimates six to eight years out, we observe a persistent positive relation between a change to more liberal judges between one and two decades ago and establishment net entry in a given period. However, the largest and most statistically

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significant effect of changes toward liberal ideology and net establishment entry is the positive effect observed two to five years following the change.

In Table A.1 we examine the robustness of our findings to the fixed effects and control structure. In our baseline analysis we include both the lagged dependent variable and state fixed effects. This helps control for prevailing economic conditions, but can cause bias in the estimates. To ensure that this bias does not materially affect our conclusions we replicate our analysis excluding either state fixed effects or the lagged dependent variable. Across all columns of Table A.1. the results are qualitatively similar to those in Table 2.

It is also important to understand the extent to which the estimates in Table 2 are driven by judges' choices regarding when to switch to senior status or Congressional changes in circuit court sizes. To this end, Table 3 replaces our measures of changes in liberal ideology with our intent to treat measure, which is not sensitive to judges' decision of whether to switch to senior status or Congress's decisions to create more circuit court seats (see Section 3.3 for more details on this approach). Across all four columns of Table 3 the findings are qualitatively similar using our intent to treat measure. A one standard deviation change in our intent to treat measures is much smaller than in our primary liberal change measures. Thus, even though the coefficients are larger, the implied magnitude is smaller as would be expected with an intent to treat analysis in which not every participant is treated (i.e., not every judge quickly adopts senior status). Using the coefficient estimates in Column 4 of Table 3 as an example, the intent to treat estimates suggest that a one standard deviation (or 0.007 unit) increase in Liberal change ITT [t-5, t] is associated with a 0.9% increase in state-level establishment growth. Overall, results from this subsection highlight the strong influence of liberal judicial ideology on net business entry.

4.2 Judicial Ideology and Business Turnover

In our next set of tests, we decompose our evidence on net establishment entry into its components, establishment entry and establishment exit. This decomposition allows us to contribute to an emerging literature highlighting the importance of new business entries as a driver of new job creation in the U.S.[17] It also offers a clearer understanding of the timing of the relation between changes in judicial ideology and establishment growth.

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[17] See, for example, Haltiwanger, Jarmin, and Miranda (2013); Adelino, Ma, and Robinson (2017); and Tian (2018).

We present our findings in Table 4. The results in the first two rows of columns 1 and 2 show that the initial increase in establishment growth is driven by increased establishment entries, not reduced establishment exits. Thus, changes toward more liberal judicial ideology has an immediate positive effect on new business start-ups. Unlike the entry decision, which is based on all types of cash flows, the short-run exit decision is only considers current revenues and variable costs. Thus, to the extent that changes in judicial ideology impact fixed costs or long-run expectations about revenues or variable costs, the effect of judicial ideology changes on exit will occur with a lag. Table 4 supports this possibility as the negative effect of increases in liberal judicial ideology five to ten years out is driven almost entirely by an increase in establishment exits, not a reduction in entries.

Figures 4 and 5 illustrate the dynamic effect of judicial ideology on establishment entry and exit on a year-by-year basis. Figure 4 shows that four of the first seven lags of liberal change are positive and significant predictors of establishment entry, with the other three estimates being positive as well. Figure 5 shows that judicial ideology changes five to nine years ago positively predict establishment exits. A notable feature of both Figures 4 and 5 is that the coefficients in both figures are uniformly positive for liberal changes in ideology occurring anywhere from 1 to 18 years ago. This is consistent with the central prediction of the *Liberal Turnover Hypothesis* – more liberal judges result in more turnover of business establishments.

This evidence also contributes to an emerging literature by adding judicial ideology as a new determinants of business start-ups. Other determinants of start-ups recently documented in the finance and economics literature include, positive local economic shocks (Adelino, Ma, and Robinson 2017), slow labor force growth (Pugsley, Karahan and Sahin 2020), weak knowledge diffusion between frontier and laggard firms (Akcigit and Ates 2019), and reduced import competition (Pugsley and Sahin 2019.

We next study the extent to which this increased turnover in establishments affects employment. Column 3 of Table 4 provides consistent evidence that new entrants are creating more jobs for decades after the courts become more liberal. All four of the five-year change measures are positive and statistically significant. Figures 6 provides a year-by-year breakdown of this effect, indicating that liberal changes every year for the previous two decades positively predict jobs to be created via new firm births. The point estimates are statistically significant and

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hover around 0.5 for liberal changes in ideology over the previous seven years. From years eight through twenty the point estimates are closer to one-half on average with some estimates being insignificantly different from zero.

Column 4 of Table 4 and Figure 7 paint a similar picture for jobs destroyed via firm deaths, however consistent with our establishment entry and exit results the effect of liberal changes on job destruction lags the effect on job creation. The point estimates are all positive except for in year zero. From year six to ten the point estimates are statistically significant before retreating to smaller statistically insignificantly positive point estimates. In sum, the evidence on employee turnover is very similar to our findings on establishment turnover, bolstering our evidence in support of the central prediction of the *Liberal Turnover Hypothesis* that more liberal courts facilitate economic turnover.

5. Effects of Judicial Ideology on Firm Composition

5.1. Age Composition

The evidence thus far indicates that liberal changes result in persistent increases in new establishment entry and job birth. Nonetheless, we also find increases in firm exit and job destruction due to liberal changes. These findings collectively suggest that liberal changes increase turnover in the economy, but tell us little about the composition of surviving firms. In this section, we seek to better understand how changes in judicial ideology impact the composition of survivor businesses and shifts in employment. Specifically, we examine how liberal changes impact (i) the survival probabilities of newly entering and incumbent businesses, (ii) age composition of survivor firms, (iii) job reallocation, and (iv) the creation of sole proprietorships.

We present our findings on business survival in Table 5. Panel A presents results on one- to five-year survival rates of new businesses, and Panel B presents results on five-year survival rates of incumbent establishments within different age groups. As shown in columns 1 to 5 of Panel A, liberal judicial ideology has strong negative effects on startup survival rates. Columns 1 and 2 of Panel B further show that liberal judicial ideology has strong negative effects on survival rates of one to four-year-old businesses and five to ten-year-old businesses. In contrast, we do not find any persistent effects on survival rates of older businesses, i.e., businesses that are 11 to 15 years old or more than 15 years old. We show in Table A.2 of the Appendix that judicial ideology

significantly predicts 10- and 15-year survival rates of one to four-year-old businesses and five to ten-year-old businesses.

These findings coupled with previous results on new business entry suggest that the economic turnover driven by liberal changes is predominant for new and young businesses. Our findings in columns 1 and 2 of Table 6, however, show that the new business entry rate dominates the lower new business survival rate, leading to an increased share of startup and young firms in the economy. We, for example, find that a one standard deviation, or 0.22 unit, increase in liberal (conservative) ideology predicts a 0.11% increase (decrease) in the share of start-ups in the economy during the first five-year period. During years 10 to 15 and 15 to 20, a one standard deviation increase in liberal (conservative) ideology predicts 0.08% or 0.06% increases (decreases) in the share of start-ups, respectively. We find similar trends for one- to four-year old firms.

Columns 3 and 4 of Table 6 present our findings on employee turnover. In accordance with previous results, we identify a strong, positive, and persistent effect of liberal judicial ideology on employee reallocation over the first 15 years after liberal changes. As shown in column 4 of Table 6, we also find that the number of proprietorships increases significantly subsequent to liberal changes. This increase is persistent for 20 years. These findings collectively point to a reallocation of labor toward market entrants and sole proprietorships.

5.2. Industry Composition

In this subsection, we provide some evidence on the mechanism through which judicial ideology affects business dynamism. To do this, we test the extent to which the effects of judicial ideology on business dynamics varies by industry. Industry is a useful proxy for several mechanisms through which judicial ideology may affect entry and exit. In particular, we use industries to proxy for three such mechanisms: litigation risk, innovation risk, and union risk.

Existing literature supports both the possibility that these mechanisms contribute to the relation between judicial ideology and our outcomes of interest and industries as a reasonable proxy for these potential mechanisms. Huang, Hui, and Li (2019) argue that liberal judicial ideology significantly increases litigation and in turn affects corporate disclosure policy. In fact, Huang, Hui, and Li (2019) posit that judicial ideology is a proxy for litigation risk. We interpret judicial ideology more broadly than just a proxy for litigation risk, however litigation is one

reasonable channel through which judicial ideology may impact firm behavior. Although industry is not the only (or best) way to proxy for a firm's exposure to litigation risk, a large literature follows Francis, Philbrick, and Schipper (1994) in calling the biotechnology, computers, electronics, and retail industries more exposed to litigation risk industries (see e.g., Kim and Skinner, 2012). We follow this literature and create an indicator, i.e., *Low Litigation Risk*, for industries outside this litigation risk sensitive group.[18]

Industry can also proxy for innovation. Innovative firms tend to be more sensitive to the judicial system because court rulings affect the value of intellectual property, with more conservative courts tending to protect intellectual property more aggressively. Indeed, Galasso and Schankerman (2015) find that courts' invalidation of patents from large patentees affects future innovation, especially among small firms. We base our industry-level measure of innovation off of Table 1 in Bellstam, Bhagat, and Cookson (2019). *Low Innovation Risk* equals one if an industry is not one of the top ten industries according to Bellsatm, Bhagat, and Cookson (2019)'s text-based innovation measure and not one of the three remaining industries with above average R&D spending.[19]

Labor unions also make firms more sensitive to the judicial system, with courts being more likely to side with businesses over labor unions. We proxy for union exposure by defining high union sectors as utilities, transportation, telecommunications (SIC codes 40-49), educational services (SIC code 82), motion pictures and recording (SIC code 78), construction (SIC codes 15-17), and manufacturing (SIC codes 20-39) sectors. According to the Bureau of Labor Statistics these were the industries with the highest percentage of unionized jobs, ranging from 9% in manufacturing to 20% in the utilities industry.[20] *Low Union Risk* therefore contains all industries except for these.

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[18] Specifically, following Francis, Philbrick and Schipper (1994), we define high litigation risk sectors as biotechnology (SIC codes 2833-2836 and 8731-8734), computers (SIC codes 3570-3577 and 7370-7374), electronics (SIC codes 3600-3674), and retailing (SIC codes 5200-5961) sectors.

[19] Specifically, following Bellstam, Bhagat, and Cookson (2019) we define high innovation risk sectors as communications (SIC code 48), electronic and other electric equipment (SIC code 36), motion pictures (SIC code 78), business services (SIC code 73), special trade contractors (SIC code 17), engineering and management services (SIC code 87), furniture and home furnishings stores (SIC code 57), agricultural production (SIC code 01), industrial machinery and equipment (SIC code 35), misc. manufacturing (SIC code 39), instruments and related products (SIC code 38), chemicals and allied products (SIC code 28), transportation equipment (SIC code 37) sectors.

[20] See, for example https://www.bls.gov/news.release/union2.t03.htm.

Ex-ante it is unclear whether these judicially sensitive industries prefer liberal or conservative courts, relative to other industries. It is also an empirical question whether the economic turnover we observe in the full sample is driven by certain industries or if the short-run increase in entry is driven by a different set of industries than the long-run exit, resulting in a long-run change in industry composition.

5.2.1 Industry-level Empirical Approach

To identify the effect of changes in judicial ideology on changes in the composition of industries across U.S. and over time, we collect state-industry-year level data from U.S. Census Bureau's County Business Patterns dataset. The state-industry-year level series can be downloaded from "Complete State Files" on County Business Patterns webpage.[21] It includes the total number of establishments starting from 1998. U.S. Census Bureau categorizes industries using 6-digit NAICS codes.[22]

The coefficient of interest is the interaction between changes in judicial ideology and the measures of judicial sensitivity discussed above. To translate these measures of judicial sensitivity, which are often defined in terms of SIC codes, we link these SIC codes to 6-digit NAICS codes using a crosswalk table on NAICS webpage, NAICS.com. A 6-digit NAICS code is considered sensitive to a particular judicial risk if half or more of the underlying SIC codes are exposed to the judicial risk.

The regression equation we estimate is:

$$Ln(Estab.)_{i,j,t} = \beta_0 + \beta_1 Jud.Sens \; x \; \Delta Lib.Ct._{i,[t-5,t]} +$$
$$\beta_2 Jud.Sens \; x \; \Delta Liberal \; Count_{i,[t-10,t-5]} + \beta_3 Jud.Sens \; x \; \Delta Liberal \; Count_{i,[t-15,t-10]} +$$
$$\beta_4 Jud.Sens \; x \; \Delta Liberal \; Count_{i,[t-20,t-15]} + Ln(Estab.)_{i,j,t-1} + \pi_{jt} + \gamma_{it} + \psi_{ij} + \varepsilon_{i,t} \qquad (6)$$

A benefit to the state-year-industry-level analysis is that we can include state-year (γ_{it}), industry-year (π_{jt}) , and industry-state (ψ_{ij}) fixed effects. These fixed effects subsume all of the state-year-level control variables used in our baseline analysis, including the baseline effect of $\Delta Lib.Ct$. The coefficients of interest here are interactions between $\Delta Lib.Ct$ and the judicial

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[21] See, for example, https://www.census.gov/data/datasets/2016/econ/cbp/2016-cbp.html.
[22] Establishment entry and exit rates are not available in this dataset.

sensitivity of the industry. Thus, we estimate how establishment growth (we measure establishment growth because we control for the lagged establishments in an industry-state-year) differentially changes for industries with high judicial sensitivity.

5.2.2 Results

In Columns 1 through 3 of Table 7 we estimate Equation 6 using each of our three industry-level proxies for judicial sensitivity: *Low Litigation Risk*, *Low Innovation Risk*, and *Low Union Risk*. The point estimates on all four interactions between our judicial sensitivity measures and liberal changes in judicial ideology over the past five years are positive. The magnitude of the coefficients ranges from 0.006 to 0.036, suggesting that a one standard deviation change in toward liberal ideology (a 0.22-unit change) leads to a relative decline in establishment in judicially sensitive industries of between 0.01% and 0.79%. Although most of these points estimates are statistically insignificant, the consistently positive coefficients suggest that the industries that are the least sensitive to the judicial system have a stronger preference for liberal courts, relative to other industries. Thus, as courts become more liberal the proportion of establishments in judicially sensitive industries increases.

The measures of judicial sensitivity used in Columns 1 through 3 are not mutually exclusive. Given that all three measures of judicial sensitivity appear to have a positive (albeit statistically insignificant) relation with the relation between liberal judicial ideology and establishment growth, we next combine our measures of judicial sensitivity to isolate the industries least sensitive to the judicial system. We define *Combined*, as the intersection of our three judicial sensitivity measures.

Column 4 of Table 7 shows that using this combined measure of judicial sensitivity there is a consistently significant more positive relation between changes in liberal ideology and establishment growth in judicially sensitive industries, compared to other industries. In Column 5 we reweight the sample based on the proportion of state-year establishments are housed in each industry. We find similar results, suggesting that our results are not driven by small industries, which may exhibit extreme year-over-year changes in establishments or comprise an insignificant portion of the state's economy.

Figure 8 decomposes the effect in Table 7 on a year-by-year basis. As in Table 7, the coefficient on the interaction between judicial sensitivity and changes toward liberal ideology is consistently negative for each of the twenty years in the figure. The coefficient magnitude is fairly constant bouncing from 0.02 to 0.07 for liberal changes within the last 16 years. For changes 17 to 19 years ago the coefficient becomes smaller in magnitude.

Overall, our findings suggest that the industries we argue are least sensitive to the courts grow slower than other industries following transitions towards more liberal courts. This finding coupled with our findings from Section 4.1 suggests that the short-run increase in overall net entry rate may be driven by non-judicially sensitive industries. Perhaps in non-judicially sensitive industries the judicial protections that conservative courts offer to existing businesses act as more of a barrier to entry to new firms, as opposed to an enticing reason to enter. For judicially sensitive industries the opposite appears more predominant.

6. Business Dynamism Over Business Cycle

The results presented thus far suggest that transitions toward more liberal judicial ideology trigger business dynamism. In this section, we examine whether the effects of judicial ideology on busines dynamism vary over the business cycle. Since liberal judges prioritize increased employment (Hibbs 1977), a likely reason that they support business start-ups is the positive effect that these start-ups have on job creation (Haltiwanger, Jarmin, and Miranda 2013). The pro-cyclical nature of business entry (see e.g., Devereux et al. 1996; Bilbiie, Ghironi, and Melitz 2012; Chatterjee and Cooper 2014; and Clementi and Palazzo 2016) suggests that there is a larger pool of untapped labor during economic downturns.[23] Thus, we expect liberal judges to be increasingly supportive of new business creations when economic growth is low.

To empirically examine the influence of judicial ideology over the business cycle, we augment our main specification with interactions between changes in judicial ideology and economic growth, measured as standardized percent change in state domestic product per capita. Since this measure is standardized, the coefficient estimate on $\Delta \text{Lib.Ct.}_{[t-5,t]}$ represents the estimated effect of $\Delta \text{Lib.Ct.}_{[t-5,t]}$ under average economic conditions. In the meantime, the

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[23] Shleifer (1986) argues that cycles occur because firms innovate simultaneously in the expectation of a boom, and expectations of booms become self-fulfilling.

coefficient on the interaction term (i.e., $\Delta \text{Lib.} \text{Ct.}_{[t-5,t]}$ X Stan. Δ GSP / cap) represents how the effect of $\Delta \text{Lib.} \text{Ct.}_{[t-5,t]}$ depends on whether the economy is in an expansionary or recessionary period.

Table 8 presents our findings on business dynamism over the business cycle. The estimates on the $\Delta \text{Lib.} \text{Ct.}_{[t-5,t]}$ across the first row of Panel A are relatively similar to those presented in previous tables. Comparing the coefficient on $\Delta \text{Lib.} \text{Ct.}_{[t-5,t]}$ of 0.561 in Column 1 to the coefficient of 0.776 in the baseline specification in Table 2 suggests that the effect of judicial ideology on establishment net entry is comparable under average economic conditions as it is over the full sample. The same is true for business entry (0.354 in Table 8 vs. 0.453 in Table 4), job creation (0.425 in Table 9 vs. 0.529 in Table 4), and startup share (0.005 in Table 8 vs. 0.005 in Table 6). Importantly, the second row of Table 9 Panel A reveals that these average effects mask important heterogeneity during economic cycles. We find consistent evidence that the positive relations between $\Delta \text{Lib.} \text{Ct.}_{[t-5,t]}$ and net establishment entry, establishment entry, job births, and startup share are more positive (negative) during economic downturns, i.e., when Stan. Δ GSP / cap is negative (positive). This suggests that the effect of liberal ideology on business dynamism is even more positive during downturns. In the meantime, we pin down empirical evidence that supports *Conservative Growth Hypothesis* when Stan. Δ GSP / cap is positive.

In Panel B of Table 8 we provide an alternate interpretation of the results presented in Panel A, by re-standardizing our measure of economic growth. Instead of subtracting the average percentage change in state-level per capita GDP, we subtract the average plus or minus one standard deviation. This changes the interpretation of the main effect that we present in Panel B. In Panel B.1 (Panel B.2), the main effect measures the effect of changes in liberal ideology when economic conditions are one standard deviation above (below) average. The estimates presented in Panel B clearly show that the initial positive effect of liberal judges on net establishment entry, establishment entry, job births, and startup share are more positive (and statistically significant) during bad economic downturns. In untabulated results, we confirm that the effect of liberal changes on business exits are more positive (negative) when Stan. Δ GSP / cap is negative (positive), in line with our *Liberal Turnover Hypothesis.* Overall, the evidence presented in this section suggests that the effects of judicial ideology on business dynamism varies over economic cycles.

7. Conclusion

We examine how fundamental business decisions such as entry and exit are influenced by staggered changes in ideology of U.S. circuit courts. We show that liberal courts, which are often viewed as less pro-business, facilitate business turnover. The business turnover begins with increased establishment entry and job creation in the first five years. Over the subsequent decades, we find elevated levels of both establishment entry and exit and job creation and destruction. Thus, liberal courts lead to increased business turnover for several decades.

As a result of this court-induced economic turnover, the concentration of young firms and sole proprietorships increases. Combined with emerging evidence that business start-ups are central drivers of economic growth, these results suggest that increasingly conservative judicial ideology across U.S. courts may be a contributor to the dearth of U.S. business start-ups over the last few decades. Liberal courts lead to a relative decrease in firms operating in judicial-sensitive industries (i.e., industries more exposed to litigation, intellectual property, and labor risks). Thus, the benefits of liberal ideology must be balanced against the reality that businesses in many industries rely on courts to protect their rights against a variety of stakeholders and competitors. The optimal way to manage these tradeoffs is an interesting subject for future research.

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Figure 1: U.S. Circuits

This figure is from the official U.S. courts website (uscourts.gov). It presents a breakdown of states by which of the eleven U.S. Court of Appeals circuit the state resides in. These circuits have been constant since 1980 when the 5th circuit split into the 5th and 11th circuit, which is the only change in state-circuit mappings during our sample period. Our sample includes only state-year observations, thus dropping the District of Columbia and other U.S. territories.

Geographic Boundaries
of United States Courts of Appeals and United States District Courts
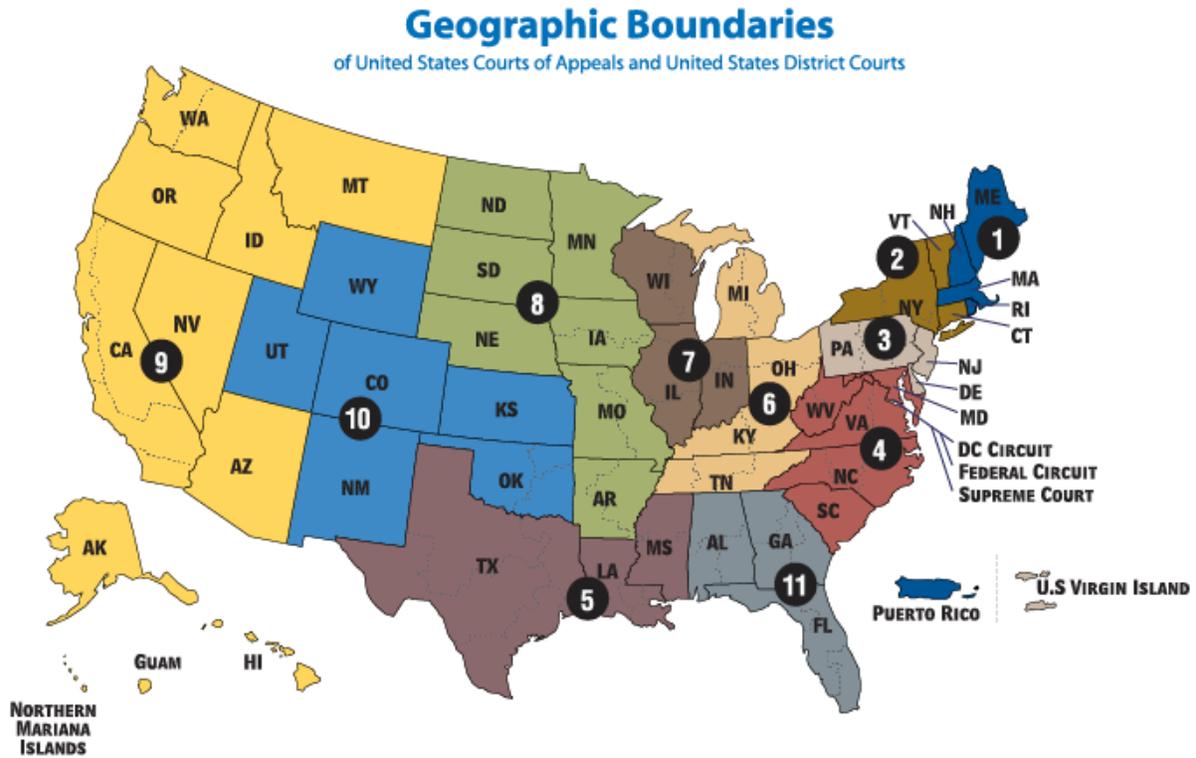
Figure 2: Changes in Liberal Ideology

This figure presents year-to-year changes in *Liberal count* across the eleven U.S. Court of Appeals circuits between 1979 and 2016. *Liberal count* is equal to $\frac{[C(x,3)+C(x,2)\times C(y-x,1)]}{C(y,3)}$, where $C(n,r)$ is a binomial coefficient indicating the number of possible combinations of r objects from a set of n distinct objects, x is the number of Democratic appointees in the circuit, and y is the total number of judges in the circuit Democratic appointees refer to the judges that are appointed by Democratic Presidents. The years with Democratic Presidents are shaded.

Figure 3: Effect of Lagged Liberal Changes on Net Establishment Entry

This figure presents the evolution of net establishment entry relative to yearly changes in judicial ideology. A change in judicial ideology from year *t-1* to *t* is measured as *Liberal coun$_t$ - Liberal coun$_{t-1}$*. *Liberal count* is equal to $\frac{[C(x,3)+C(x,2)\times C(y-x,1)]}{C(y,3)}$, where $C(n,r)$ is a binomial coefficient indicating the number of possible combinations of r objects from a set of n distinct objects, x is the number of Democratic appointees in the circuit, and y is the total number of judges in the circuit Democratic appointees refer to the judges that are appointed by Democratic Presidents. The x-axis indexes years, and the y-axis shows how much a change in *Liberal count* in a given year influences *Est. Net Entry*. *Est. Net Entry* is equal to *Est. Entry* minus *Est. Exit*. *Est. Entry* refers to the number of establishments that are newly founded, i.e. the number of establishments with age of 0 and identified as entrants by BDS, and *Est. Exit* refers to the number of establishments with zero employment in the current year and positive employment in the prior year. Merger and acquisition activity is not classified as firm exit. We control for lagged percent change in GDP per capita, lagged net establishment entry, lagged net job creation rate, lagged number of employees (logged), lagged number of establishments (logged) and lagged liberal count. We also control for state and year fixed effects. Variable definitions are presented in detail in Table 1. Confidence intervals are at 10% levels.
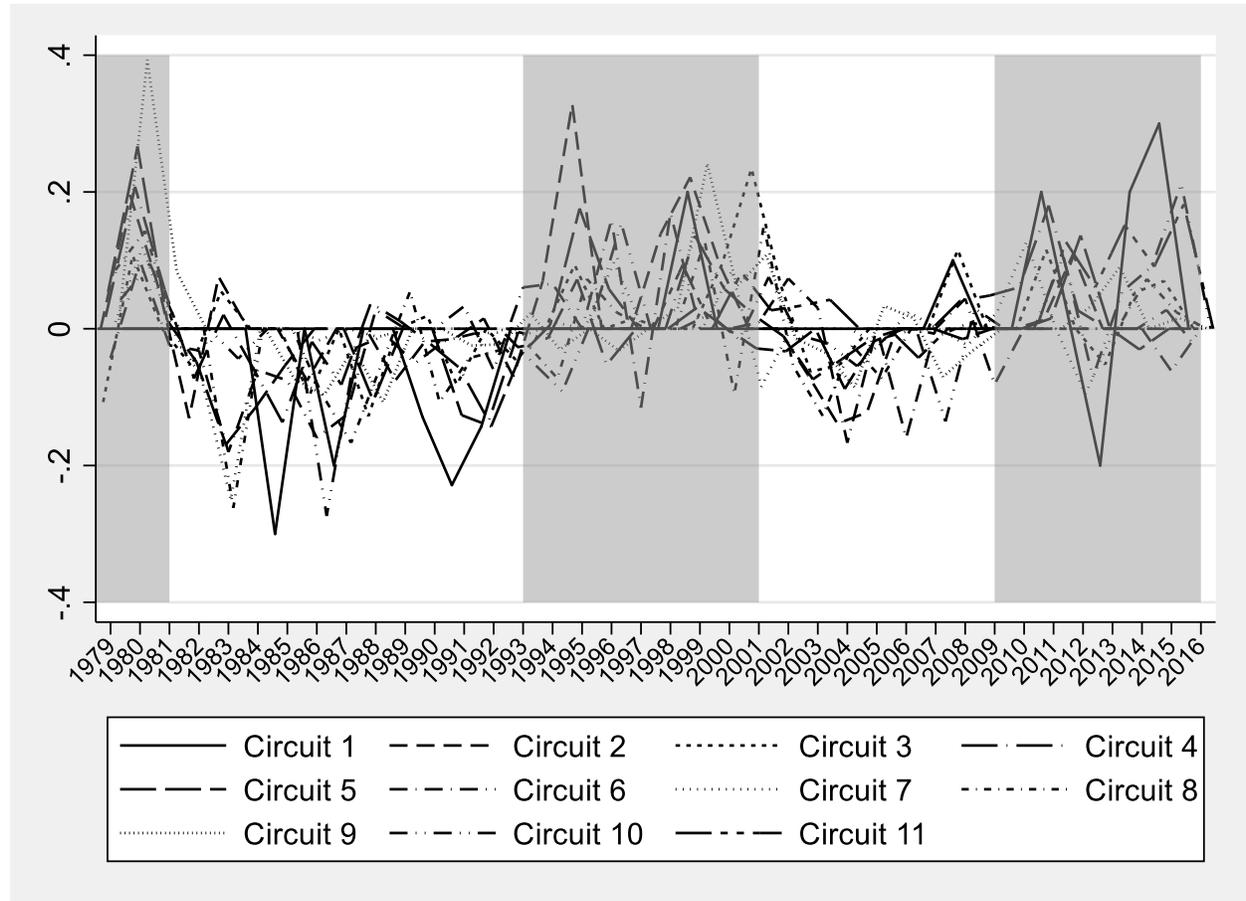
Figure 4: Effect of Lagged Liberal Changes on Establishment Entry

This figure presents the evolution of establishment entry relative to yearly changes in judicial ideology. A change in judicial ideology from year *t-1* to *t* is measured as *Liberal coun$_t$* - *Liberal coun$_{t-1}$*. *Liberal count* is equal to $\frac{[C(x,3)+C(x,2)\times C(y-x,1)]}{C(y,3)}$, where $C(n,r)$ is a binomial coefficient indicating the number of possible combinations of r objects from a set of n distinct objects, x is the number of Democratic appointees in the circuit, and y is the total number of judges in the circuit Democratic appointees refer to the judges that are appointed by Democratic Presidents. The x-axis indexes years, and the y-axis shows how much a change in *Liberal count* in a given year influences *Est. Entry*, which refers to the number of establishments that are newly founded, i.e. the number of establishments with age of 0 and identified as entrants by BDS. We control for lagged percent change in GDP per capita, lagged net establishment entry, lagged net job creation rate, lagged number of employees (logged), lagged number of establishments (logged) and lagged liberal count. We also control for state and year fixed effects. Variable definitions are presented in detail in Table 1. Confidence intervals are at 10% levels.

Figure 5: Effect of Lagged Liberal Changes on Establishment Exit

This figure presents the evolution of establishment exits relative to yearly changes in judicial ideology. A change in judicial ideology from year *t-1* to *t* is measured as *Liberal count* - *Liberal count*. *Liberal count* is equal to $\frac{[C(x,3)+C(x,2)\times C(y-x,1)]}{C(y,3)}$, where $C(n,r)$ is a binomial coefficient indicating the number of possible combinations of r objects from a set of n distinct objects, x is the number of Democratic appointees in the circuit, and y is the total number of judges in the circuit Democratic appointees refer to the judges that are appointed by Democratic Presidents. The x-axis indexes years, and the y-axis shows how much a change in *Liberal count* in a given year influences *Est. Exit*, which refers to the number of establishments with zero employment in the current year and positive employment in the prior year. We control for lagged percent change in GDP per capita, lagged net establishment entry, lagged net job creation rate, lagged number of employees (logged), lagged number of establishments (logged) and lagged liberal count. We also control for state and year fixed effects. Variable definitions are presented in detail in Table 1. Confidence intervals are at 10% levels.
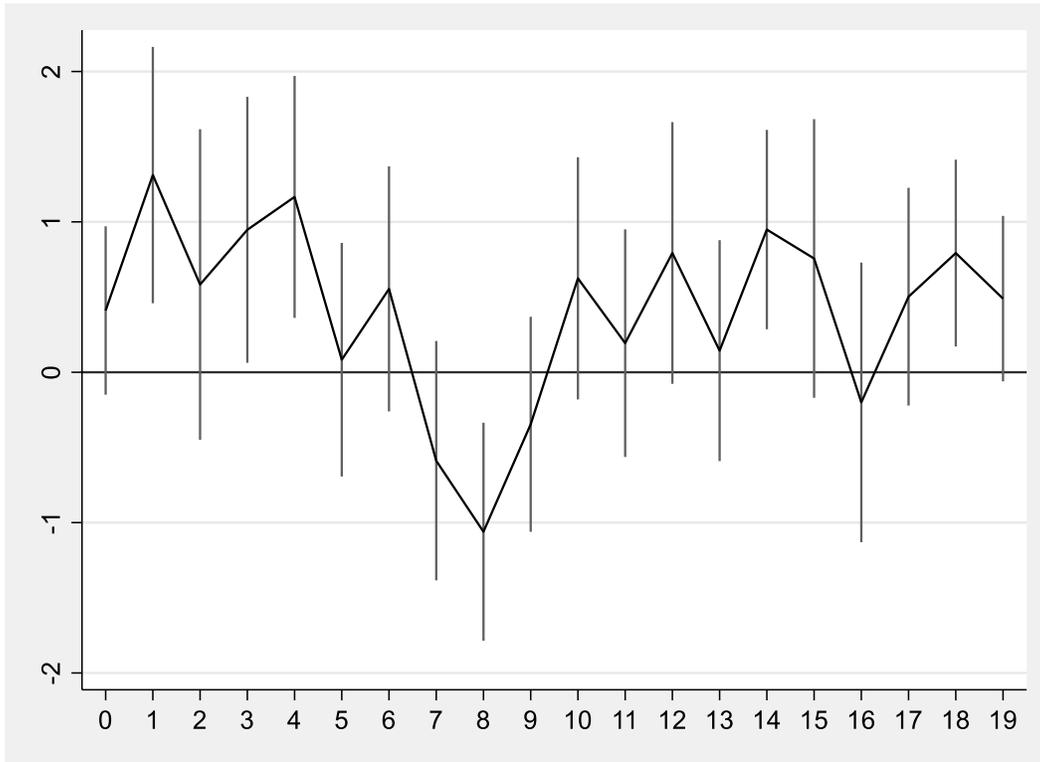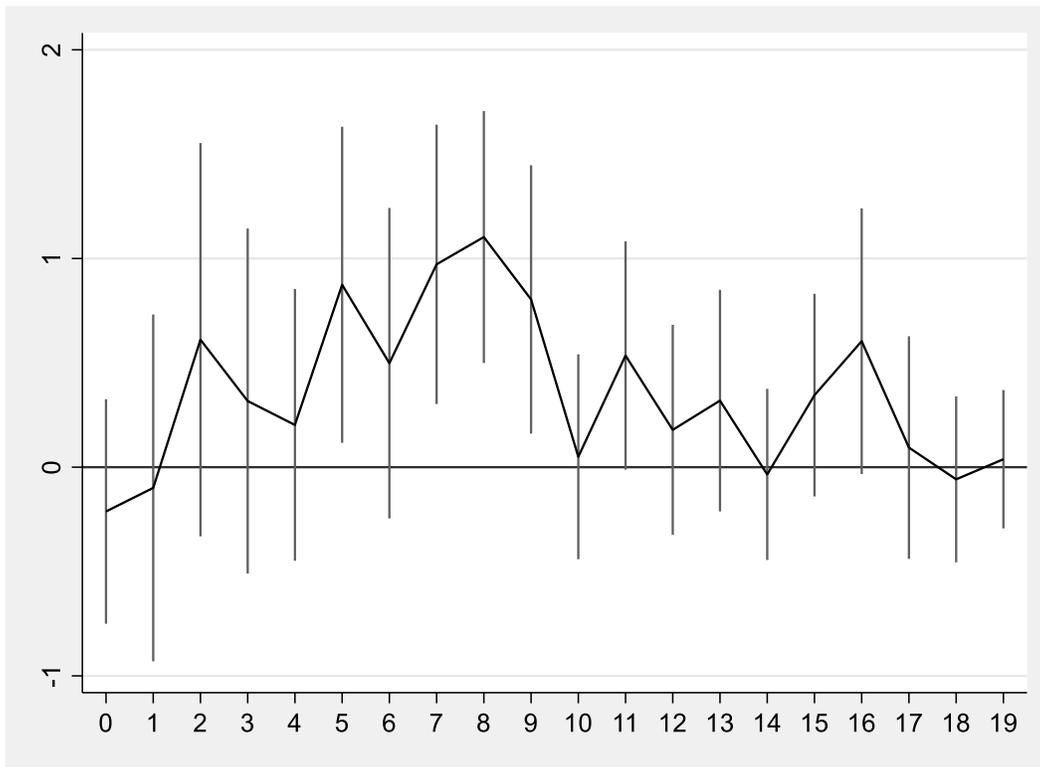
Figure 6: Job Creation Births

This figure presents the evolution of job creation relative to yearly changes in judicial ideology. A change in judicial ideology from year *t-1* to *t* is measured as *Liberal count* - *Liberal count*$_{t-1}$. *Liberal count* is equal to $\frac{[C(x,3)+C(x,2)\times C(y-x,1)]}{C(y,3)}$, where $C(n,r)$ is a binomial coefficient indicating the number of possible combinations of r objects from a set of n distinct objects, x is the number of Democratic appointees in the circuit, and y is the total number of judges in the circuit Democratic appointees refer to the judges that are appointed by Democratic Presidents. The x-axis indexes years, and the y-axis shows how much a change in *Liberal count* in a given year influences *Job Creation (Births)*, which refers to job creation resulting from establishments with firm age equal to zero. We control for lagged percent change in GDP per capita, lagged net establishment entry, lagged net job creation rate, lagged number of employees (logged), lagged number of establishments (logged) and lagged liberal count. We also control for state and year fixed effects. Variable definitions are presented in detail in Table 1. Confidence intervals are at 10% levels.
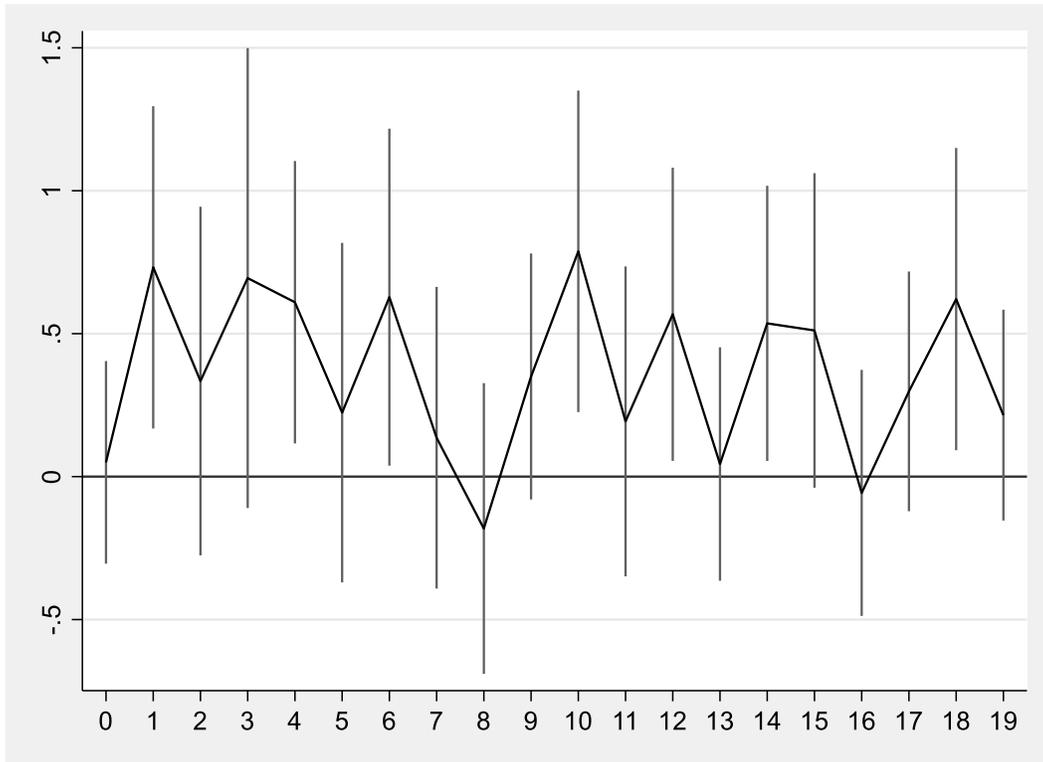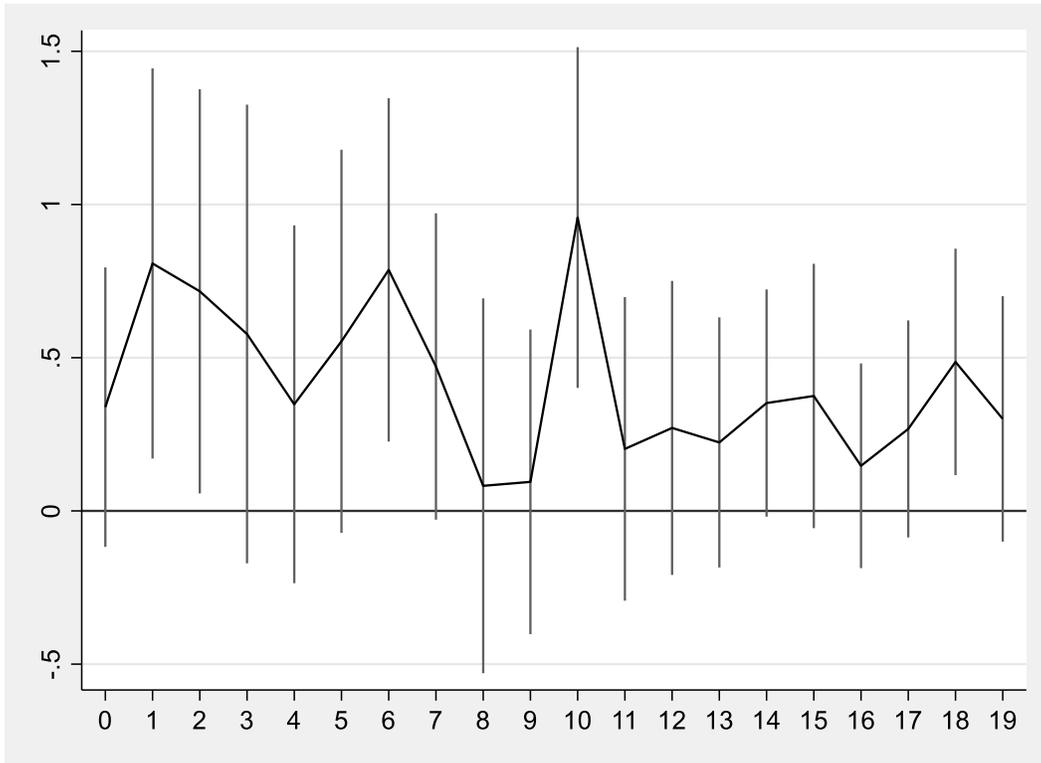
Figure 7: Job Destruction Deaths

This figure presents the evolution of job creation relative to yearly changes in judicial ideology. A change in judicial ideology from year *t-1* to *t* is measured as *Liberal coun_t* - *Liberal coun_{t-1}*. *Liberal count* is equal to $\frac{[C(x,3)+C(x,2)\times C(y-x,1)]}{C(y,3)}$, where $C(n,r)$ is a binomial coefficient indicating the number of possible combinations of r objects from a set of n distinct objects, x is the number of Democratic appointees in the circuit, and y is the total number of judges in the circuit Democratic appointees refer to the judges that are appointed by Democratic Presidents. The x-axis indexes years, and the y-axis shows how much a change in *Liberal count* in a given year influences *Job Destruction (Deaths)*, which refers to all employment losses due to establishments that cease their operations. We control for lagged percent change in GDP per capita, lagged net establishment entry, lagged net job creation rate, lagged number of employees (logged), lagged number of establishments (logged) and lagged liberal count. We also control for state and year fixed effects. Variable definitions are presented in detail in Table 1. Confidence intervals are at 10% levels.
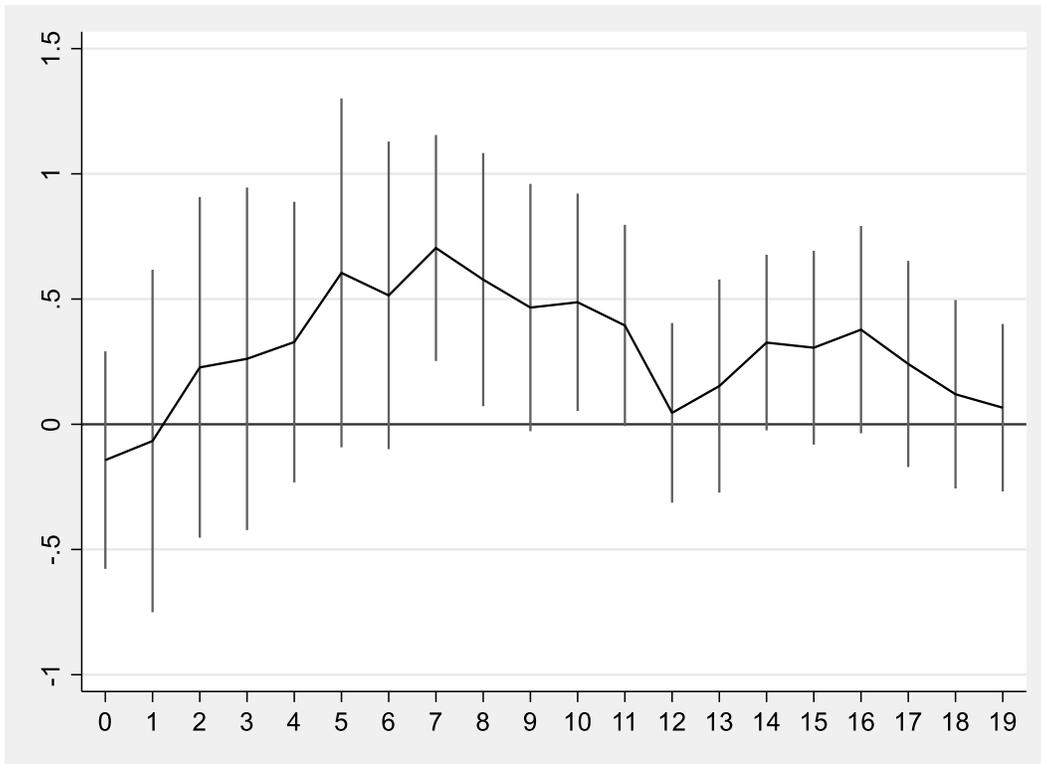
Figure 8: Establishment growth and industry-level judicial sensitivity

This figure presents the evolution of number of establishments in high judicial risk industries in a given state-year relative to yearly changes in judicial ideology. A change in judicial ideology from year *t-1* to *t* is measured as *Liberal coun$_t$* - *Liberal coun$_{t-1}$*. *Liberal count* is equal to $\frac{[C(x,3)+C(x,2)\times C(y-x,1)]}{C(y,3)}$, where $C(n,r)$ is a binomial coefficient indicating the number of possible combinations of r objects from a set of n distinct objects, x is the number of Democratic appointees in the circuit, and y is the total number of judges in the circuit Democratic appointees refer to the judges that are appointed by Democratic Presidents. The x-axis indexes years, and the y-axis shows how much a change in *Liberal count* in a given year influences *Comb. (wtd)*, as defined in Table 6. We control for state × year, state × industry and industry × year interactive fixed effects. Confidence intervals are at 10% levels.
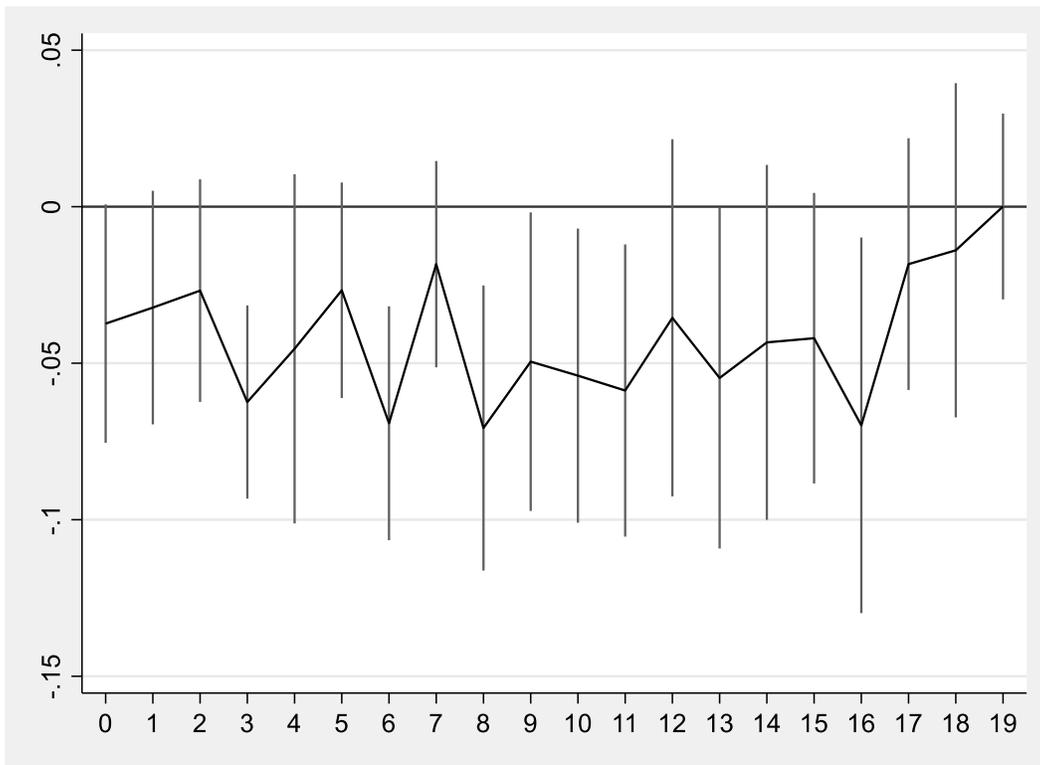
Table 1: Descriptive Statistics

This table reports correlations among our main treatment variables (Panel A) and summary statistics on judicial characteristics and business dynamics at the state-year level (Panel B). We use data from Federal Judicial Center, BEA and U.S. Census Bureau. *Liberal count* is equal to $\frac{[C(x,3)+C(x,2)\times C(y-x,1)]}{C(y,3)}$, where $C(n,r)$ is a binomial coefficient indicating the number of possible combinations of r objects from a set of n distinct objects, x is the number of Democratic appointees in the circuit, and y is the total number of judges in the circuit Democratic appointees refer to the judges that are appointed by Democratic Presidents. $\Delta Lib.Ct._{[t-5,t]}$ denotes the change in *Liberal count* from year *t-5* to *t*. $\Delta Lib.Ct._{[t-10,t-5]}$ denotes the change in *Liberal count* from year *t-10* to *t-5*. $\Delta Lib.Ct._{[t-15,t-10]}$ denotes the change in *Liberal count* from year *t-15* to *t-10*. $\Delta Lib.Ct._{[t-20,t-15]}$ denotes the change in *Liberal count* from year *t-20* to *t-15*. $\Delta Lib.Ct.ITT_{[t-5,t]}$ is our intend to treat measure and it's equal to $\left(1 - Liberal\ Count_{j,t-10}\right) * \left(Dem.Pres._{,t-5,t}\right) * \%Judge\ 55 - 59_{j.t-10}$, where $Dem.Pres._{,t-5,t}$ refers to the fraction of years between t-5 and t that have a Democratic U.S. President and $\%Judge\ 55 - 59_{j.t-10}$ refers to fraction of the court that is approaching the time at which they can elect senior status. $\Delta Lib.Ct.ITT_{[t-10,t-5]}$ denotes the intent to treat between years *t-10* to *t-5*. *Log (Estabs)* denotes the logged number of establishments. An establishment is a single physical location where business is conducted or where services or industrial operations are performed. *Est. Net Entry* is equal to *Est. Entry* minus *Est. Exit*. *Est. Entry* refers to the number of establishments that are newly founded, i.e. the number of establishments with age of 0 and identified as entrants by BDS, and *Est. Exit* refers to the number of establishments with zero employment in the current year and positive employment in the prior year. *Est. Turnover* is equal to *Est. Entry* plus *Est. Exit*. *Net Job Creation* is equal to *Job Creation minus Job Destruction. Job Creation* is the rate of all employment gains from expanding establishments from year t–1 to year t including establishment startups. *Job Destruction* is the rate of all employment losses from contracting establishments from year t–1 to year t including establishments shutting down. *Emp. Turnover* is equal to *Emp. Entry* plus *Emp. Exit*. *Job Creation (Births)* refers to job creation resulting from establishments with firm age equal to zero. *Job Destruction (Deaths)* refers to all employment losses due to establishments that cease their operations. *Log (Employees)* refers to log of all persons paid for personal services performed in the indicated pay period, including any persons in a paid leave status. Employees who have multiple responsibilities are reported once at the functional classification which is their primary responsibility. Contractors and their employees are excluded. *Change in GDP per capita* is the percentage change in the GDP per capita. *Log (Proprietorships)* refers to log of the sum of farm proprietors employment and nonfarm proprietors employment. Farm proprietors employment consists of sole proprietors and non-corporate partners in the farm industry. Nonfarm proprietors employment consists of the number of nonfarm sole proprietorships and the number of individual general partners in nonfarm partnerships. The sampling period is between 1979 and 2016.

Panel A: Correlation between Measures of Changes in Liberal Ideology

	Liberal change [t-5, t]	Liberal change [t-10, t-5]	Liberal change [t-15, t-10]	Liberal change [t-20, t-15]	Liberal change ITT [t-5, t]
Liberal change [t-5, t]	1				
Liberal change [t-10, t-5]	-0.100	1			
Liberal change [t-15, t-10]	-0.176	-0.153	1		
Liberal change [t-20, t-15]	0.137	-0.235	-0.0844	1	
Liberal change ITT [t-5, t]	0.460	-0.104	-0.298	0.00850	1
Liberal change ITT [t-10, t-5]	0.0217	0.347	-0.338	-0.319	0.0757

Panel B: Summary statistics

	Mean	Median	Stan. Dev.
Liberal count	0.38	0.34	0.25
ΔLib. Ct.$_{[t-5,t]}$	0.00	0	0.22
ΔLib. Ct.$_{[t-10,t-5]}$	-0.03	0	0.22
ΔLib. Ct.$_{[t-15,t-10]}$	-0.02	0	0.24
ΔLib. Ct.$_{[t-20,t-15]}$	0.00	0	0.24
ΔLib. Ct. ITT $_{[t-5,t]}$	0.01	0.00	0.01
ΔLib. Ct. ITT $_{[t-10,t-5]}$	0.00	0.00	0.01
Log (Estabs)	11.22	11.3	0.96
Est. Net Entry	1.67	1.6	1.84
Est. Entry	11.99	11.8	2.49
Est. Exit	10.31	10.1	1.72
Est. Turnover	22.30	22.1	3.83
Net Job Creation	1.88	2.1	2.77
Job Creation	16.21	15.95	3.05
Job Destruction	14.32	14	2.61
Emp. Turnover	30.52	30.2	4.92
Job Creation (Births)	6.05	5.8	1.60
Job Destruction (Deaths)	4.95	4.8	1.21
Log (Employees)	13.99	14.08	1.05
Change in GDP per capita	1.57	1.6	2.90
Log (Proprietorships)	12.75	12.84	0.96

Table 2: Judicial Ideology and Growth in Business Establishments

This table reports the relation between liberal judicial ideology and growth in business establishments. *Log (Estabs)* denotes the logged number of establishments. An establishment is a single physical location where business is conducted or where services or industrial operations are performed. *Est. Net Entry* is equal to *Est. Entry* minus *Est. Exit*. *Est. Entry* refers to the number of establishments that are newly founded, i.e. the number of establishments with age of 0 and identified as entrants by BDS, and *Est. Exit* refers to the number of establishments with zero employment in the current year and positive employment in the prior year. Coefficients in columns (1) and (3) are in percentage terms. Treatment and control variables are explained in detailed in Table 1. ***, **, and * indicate that the coefficient estimate is significantly different from zero at the 1%, 5%, and 10% levels, respectively.

	(1) Est. Net Entry	(2) Log(Estabs)	(3) Est. Net Entry	(4) Log(Estabs)
ΔLib. Ct.$_{[t-5,t]}$	0.776***	0.007**	0.847***	0.010***
	(2.70)	(2.24)	(3.31)	(3.15)
ΔLib. Ct.$_{[t-10,t-5]}$	-1.011***	-0.014***	-0.335	-0.005*
	(-3.60)	(-4.16)	(-1.35)	(-1.81)
ΔLib. Ct.$_{[t-15,t-10]}$	0.125	0.001	0.506*	0.006*
	(0.39)	(0.29)	(1.99)	(1.93)
ΔLib. Ct.$_{[t-20,t-15]}$	-0.024	-0.000	0.453*	0.005*
	(-0.09)	(-0.00)	(1.87)	(1.73)
Log(Estabs$_{-1}$)		0.955***	-12.869***	0.839***
		(124.44)	(-3.27)	(15.72)
Est. Net Entry$_{-1}$			0.018	
			(0.38)	
Log(Firms$_{-1}$)			4.804	0.047
			(1.46)	(1.03)
Change in GDP per capita$_{-1}$			0.095***	0.001***
			(4.65)	(4.73)
Log(Population $_{-1}$)			1.246	0.022
			(1.03)	(1.42)
Net Job Creation$_{-1}$			0.193***	0.002***
			(5.95)	(4.58)
Log(Employees$_{-1}$)			4.728***	0.062***
			(4.76)	(4.68)
Liberal Count$_{-1}$			-0.405	-0.004
			(-1.50)	(-1.22)
State Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
Adj. Within R-squared	0.021	0.961	0.307	0.968
Observations	1,900	1,900	1,900	1,900

Table 3: Intent to Treat Measure of Judicial Ideology and Business Establishments Growth

This table reports the relation between liberal judicial ideology and growth in business establishments using our intend to treat measures of changes in liberal ideology. *Log (Estabs)* denotes the logged number of establishments. An establishment is a single physical location where business is conducted or where services or industrial operations are performed. *Est. Net Entry* is equal to *Est. Entry* minus *Est. Exit*. *Est. Entry* refers to the number of establishments that are newly founded, i.e. the number of establishments with age of 0 and identified as entrants by BDS, and *Est. Exit* refers to the number of establishments with zero employment in the current year and positive employment in the prior year. Coefficients in columns (1) and (3) are in percentage terms. Treatment and control variables are explained in detailed in Table 1. ***, **, and * indicate that the coefficient estimate is significantly different from zero at the 1%, 5%, and 10% levels, respectively.

	(1) Est. Net Entry	(2) Log(Estabs)	(3) Est. Net Entry	(4) Log(Estabs)
$\Delta\text{Lib. Ct. ITT}_{j,[t-5,t]}$	13.835**	0.098*	11.010***	0.125***
	(2.49)	(1.73)	(2.85)	(2.92)
$\Delta\text{Lib. Ct. ITT}_{j,[t-10,t-5]}$	-22.730**	-0.226**	-14.253**	-0.073
	(-2.27)	(-2.05)	(-2.18)	(-0.90)
$\Delta\text{Lib. Ct.}_{[t-15,t-10]}$	-0.035	-0.000	0.315	0.005
	(-0.11)	(-0.08)	(1.23)	(1.53)
$\Delta\text{Lib. Ct.}_{[t-20,t-15]}$	0.049	0.001	0.409*	0.005*
	(0.16)	(0.39)	(1.76)	(1.82)
$\text{Log(Estabs}_{-1})$		0.955***	-11.843***	0.846***
		(121.25)	(-2.99)	(15.78)
$\text{Est. Net Entry}_{-1}$			0.020	
			(0.42)	
$\text{Log(Firms}_{-1})$			4.105	0.042
			(1.26)	(0.92)
$\text{Change in GDP per capita}_{-1}$			0.095***	0.001***
			(4.65)	(4.74)
$\text{Log(Population}_{-1})$			1.086	0.020
			(0.90)	(1.34)
$\text{Net Job Creation}_{-1}$			0.197***	0.002***
			(5.98)	(4.54)
$\text{Log(Employees}_{-1})$			4.499***	0.061***
			(4.45)	(4.50)
$\text{Liberal Count}_{-1}$			-0.365*	-0.004
			(-1.86)	(-1.48)
State Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
Adj. Within R-squared	0.006	0.960	0.300	0.968
Observations	1,900	1,900	1,900	1,900

Table 4: Business Dynamism

This table reports the relation between liberal judicial ideology and establishment entry/exit. *Est. Entry* refers to the number of establishments that are newly founded, i.e. the number of establishments with age of 0 and identified as entrants by BDS. *Est. Exit* refers to the number of establishments with zero employment in the current year and positive employment in the prior year. *Job Creation (Births)* refers to job creation resulting from establishments with firm age equal to zero. *Job Destruction (Deaths)* refers to all employment losses due to establishments that cease their operations. Treatment and control variables are explained in detailed in Table 1. ***, **, and * indicate that the coefficient estimate is significantly different from zero at the 1%, 5%, and 10% levels, respectively.

	(1) Est. Entry	(2) Est. Exit	(3) Job Creation (Births)	(4) Job Destruction (Deaths)
$\Delta \text{Lib. Ct.}_{[t-5,t]}$	0.453**	0.102	0.529***	0.079
	(2.48)	(0.40)	(2.95)	(0.42)
$\Delta \text{Lib. Ct.}_{[t-10,t-5]}$	0.174	0.773***	0.328*	0.501**
	(0.94)	(3.22)	(1.76)	(2.58)
$\Delta \text{Lib. Ct.}_{[t-15,t-10]}$	0.382**	0.122	0.380**	0.239**
	(2.28)	(0.79)	(2.41)	(2.03)
$\Delta \text{Lib. Ct.}_{[t-20,t-15]}$	0.306**	0.148	0.284**	0.176
	(2.12)	(1.12)	(2.33)	(1.52)
Est. Entry$_{-1}$	0.616***			
	(11.51)			
Est. Exit$_{-1}$		0.162**		
		(2.14)		
Job Creation (Births) $_{-1}$			0.283***	
			(4.48)	
Job Destruction (Deaths) $_{-1}$				0.184***
				(2.93)
Other Control Variables	YES	YES	YES	YES
State Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
Adj. Within R-squared	0.475	0.238	0.181	0.131
Observations	1,900	1,900	1,900	1,900

Table 5: Establishment Survival

In Panel A, the dependent variables in Columns 1 through 5 are the 1- though 5-year survival rate of establishments entering in year 0. The "x"-year survival rate is computed by taking the number of establishments of age "x" in year "x" and dividing that by the number of establishments of age 0 at year 0. In Panel B, the dependent variables are 5-year survival rates of establishments that are up to 5, 5-10, 10-15, and greater than 15 years old. $\Delta Lib.\,Ct._{[t-5,t]}$ variables are defined in Table 1. All regressions include identical control variables to those used in Table 1, which are defined in the caption to Table 1, as well as the lagged 1-year establishment survival rate. All regressions include state and year fixed effects. ***, **, and * indicate that the coefficient estimate is significantly different from zero at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
	Panel A: Survival of startups				
	1-year Survival	2-year Survival	3-year Survival	4-year Survival	5-year Survival
$\Delta Lib.\,Ct._{[t-5,t]}$	-0.008	-0.018**	-0.025***	-0.023***	-0.028***
	(-0.96)	(-2.16)	(-3.05)	(-2.75)	(-3.17)
$\Delta Lib.\,Ct._{[t-10,t-5]}$	-0.007	-0.018**	-0.020***	-0.020***	-0.021***
	(-0.96)	(-2.27)	(-2.74)	(-2.98)	(-3.29)
$\Delta Lib.\,Ct._{[t-15,t-10]}$	-0.021***	-0.023***	-0.024***	-0.025***	-0.025***
	(-3.53)	(-3.51)	(-3.36)	(-3.31)	(-3.21)
$\Delta Lib.\,Ct._{[t-20,t-15]}$	-0.004	-0.010**	-0.014***	-0.013***	-0.012***
	(-0.78)	(-2.28)	(-3.19)	(-3.14)	(-2.73)
Control Variables	YES	YES	YES	YES	YES
State Fixed Effects	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES
Adj. Within R-squared	0.110	0.129	0.055	0.023	0.016
Observations	1,836	1,785	1,734	1,683	1,632
	Panel B: Survival of incumbent establishments				
	1 to 4 years old incumbent	5 to 10 years old incumbent	11 to 15 years old incumbent	> 15 years old incumbent	
$\Delta Lib.\,Ct._{[t-5,t]}$	-0.029***	-0.013***	-0.002	0.008	
	(-3.50)	(-2.82)	(-0.46)	(1.51)	
$\Delta Lib.\,Ct._{[t-10,t-5]}$	-0.008	-0.002	-0.001	-0.004	
	(-1.33)	(-0.79)	(-0.25)	(-0.99)	
$\Delta Lib.\,Ct._{[t-15,t-10]}$	-0.015**	-0.007**	-0.004	0.003	
	(-2.62)	(-2.32)	(-1.42)	(0.61)	
$\Delta Lib.\,Ct._{[t-20,t-15]}$	-0.017***	-0.009***	-0.007***	0.000	
	(-2.92)	(-3.41)	(-2.92)	(0.06)	
Control Variables	YES	YES	YES	YES	
State Fixed Effects	YES	YES	YES	YES	
Year Fixed Effects	YES	YES	YES	YES	
Adj. Within R-squared	0.608	0.497	0.431	0.830	
Observations	1,428	1,326	1,071	561	

Table 6: Business Age Composition

This table reports the relation between liberal judicial ideology and corporate employment characteristics. *Startup Share* is equal to the number of new businesses deflated by last year's total number of businesses. *Young Est. Share* is equal to the number of businesses with ages one to four deflated by last year's total number of businesses. *Job reallocation* is equal to *Job Creation* plus *Job Destruction*. *Job Creation* is the sum of all employment gains from expanding establishments from year t–1 to year t including establishment startups. *Job Destruction* is the sum of all employment losses from contracting establishments from year t–1 to year t including establishments shutting down. *Log (Proprietorships)* refers to log of the sum of farm proprietors employment and nonfarm proprietors employment. Farm proprietors employment consists of sole proprietors and non-corporate partners in the farm industry. Treatment and control variables are explained in detailed in Table 1. ***, **, and * indicate that the coefficient estimate is significantly different from zero at the 1%, 5%, and 10% levels, respectively.

	(1) Startup Share	(2) Young Est. Share	(3) Job reallocation	(4) Log (Proprietorships)
ΔLib. Ct.$_{[t-5,t]}$	0.005***	0.005**	0.934*	0.012*
	(3.25)	(2.62)	(1.84)	(1.90)
ΔLib. Ct.$_{[t-10,t-5]}$	-0.000	-0.002	1.468**	0.019***
	(-0.14)	(-1.49)	(2.67)	(3.13)
ΔLib. Ct.$_{[t-15,t-10]}$	0.004**	0.003*	1.073***	0.013**
	(2.28)	(1.94)	(3.16)	(2.55)
ΔLib. Ct.$_{[t-20,t-15]}$	0.003*	0.004**	0.439	0.011**
	(1.90)	(2.57)	(1.46)	(2.59)
Startup share $_{-1}$	0.631***			
	(11.40)			
Young firm share $_{-1}$		0.860***		
		(35.26)		
Job reallocation$_{-1}$			0.354***	
			(7.98)	
Log(Proprietorships$_{-1}$)				0.936***
				(75.16)
Other Control Variables	YES	YES	YES	YES
State Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
Adj. Within R-squared	0.518	0.771	0.228	0.960
Observations	1,836	1,683	1,850	1,900

Table 7: Business Industry Composition

This table reports the interplay between liberal judicial ideology, industry-based judicial risk, and industry composition across the U.S. Our dependent variable, *Log(1+ Establishments)*, denotes the logged number of establishments in a given state-industry-year. An establishment is a single physical location where business is conducted or where services or industrial operations are performed. Industries are categorized using 6-digit NAICS codes. We interact our treatment variables, $\Delta \text{Lib. Ct.}_{[t-5,t]}$, $\Delta \text{Lib. Ct.}_{[t-10,t-5]}$, $\Delta \text{Lib. Ct.}_{[t-15,t-10]}$ and $\Delta \text{Lib. Ct.}_{[t-20,t-15]}$ with five judicial risk measures: *Low Litigation Risk, Low Innovation Risk, Low Union Risk, Low Combined Risk,* and *Low Comb. Risk (wtd)*, which are explained in detail in Section 5.2. In column (5), *Low Comb. Risk (wtd)* refers to column (4) in weighted least squares form, where the weight equals the number of establishments in an industry in a given state-year, divided by total number of establishments in a given state-year. Treatment and control variables are explained in detailed in Table 1. We control lagged dependent variables along with state × year, state × industry and industry × year interactive fixed effects in all columns. ***, **, and * indicate that the coefficient estimate is significantly different from zero at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
	Dependent Variable: Log(1+ Establishments)$_{ijt}$				
Judicial Risk X	Low Litigation Risk	Low Innovation Risk	Low Union Risk	Low Combined Risk	Low Combined Risk (wtd)
$\Delta \text{Lib. Ct.}_{[t-5,t]}$	0.017	0.005	0.013	0.039**	0.036**
	(1.53)	(0.95)	(1.22)	(2.38)	(2.58)
$\Delta \text{Lib. Ct.}_{[t-10,t-5]}$	0.013	0.003	0.009	0.024	0.044**
	(1.22)	(0.52)	(0.86)	(1.54)	(2.38)
$\Delta \text{Lib. Ct.}_{[t-15,t-10]}$	0.010	0.003	0.011	0.016	0.041**
	(0.79)	(0.57)	(1.03)	(0.80)	(2.27)
$\Delta \text{Lib. Ct.}_{[t-20,t-15]}$	0.034**	0.004	0.021*	0.038**	0.022
	(2.49)	(0.75)	(1.89)	(2.01)	(1.62)
Lag Log(1+Establishments)	YES	YES	YES	YES	YES
Ind x Year FEs	YES	YES	YES	YES	YES
State x Year FEs	YES	YES	YES	YES	YES
State x Ind. FEs	YES	YES	YES	YES	YES
Adj. R-squared	0.991	0.991	0.991	0.991	0.996
Adj. Within R-squared	0.565	0.565	0.565	0.565	0.324
Observations	833,292	833,292	833,292	833,292	701,239

Table 8: Heterogeneity over business cycle

Panel A reports the relation between liberal judicial ideology and business dynamics over the business cycle. The dependent variables are defined in detail in Tables 2 to 6. $\Delta Lib.Ct._{[t-5,t]}$ variables are defined in Table 1 and the explanatory variable of interest in Panel A is the interaction between these variable and the State's percentage change in Gross State Product (GSP) per capita, standardized by subtracting the average percent change in GSP per capita and then dividing by its standard deviation. Panel B presents the coefficients on $\Delta Lib.Ct._{[t-5,t]}$ and $\Delta Lib.Ct._{[t-10,t-5]}$, except that Stan. Δ GSP / cap is computed by subtracting the average plus one standard deviation or the average minus one standard deviation. Thus in Panel B, $\Delta Lib.Ct._{[t-5,t]}$ and $\Delta Lib.Ct._{[t-10,t-5]}$ represent the effect of liberal changes in judicial ideology in good and bad economic conditions. All regressions in both panels include identical control variables to those used in Table 2, which are defined in the caption to Table 2. All regressions include state and year fixed effects. ***, **, and * indicate that the coefficient estimate is significantly different from zero at the 1%, 5%, and 10% levels, respectively.

Panel A: Gross State Product (GSP) Interaction

	(1) Est. Net Entry	(2) Est. Entry	(3) Job creation rate (Births)	(4) Startup Share
$\Delta Lib.Ct._{[t-5,t]}$	0.561**	0.354*	0.425**	0.005***
	(2.60)	(2.00)	(2.61)	(3.38)
X Stan. Δ GSP / cap	-0.462***	-0.354***	-0.406***	-0.003***
	(-2.74)	(-3.75)	(-4.41)	(-3.27)
$\Delta Lib.Ct._{[t-10,t-5]}$	-0.121	0.317*	0.401**	0.000
	(-0.65)	(1.77)	(2.37)	(0.05)
X Stan. Δ GSP / cap	-0.111	-0.149	-0.154***	-0.000
	(-0.66)	(-1.29)	(-2.81)	(-0.26)
$\Delta Lib.Ct._{[t-15,t-10]}$	0.374*	0.287*	0.312**	0.004**
	(1.82)	(1.81)	(2.14)	(2.40)
X Stan. Δ GSP / cap	-0.074	0.135**	0.095	-0.000
	(-0.60)	(2.38)	(1.18)	(-0.69)
$\Delta Lib.Ct._{[t-20,t-15]}$	0.429**	0.374***	0.334***	0.003**
	(2.09)	(2.77)	(2.98)	(2.28)
X Stan. Δ GSP / cap	-0.186*	-0.101	0.011	-0.001
	(-1.70)	(-1.33)	(0.20)	(-1.09)
Other Control Variables	YES	YES	YES	YES
State Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
Adj. Within R-squared	0.327	0.196	0.108	0.526
Observations	1,900	1,900	1,900	1,836

Panel B: Effects of ΔLib. Ct.$_{[t-5,t]}$ and ΔLib. Ct.$_{[t-10,t-5]}$ partitioned by state economic conditions

	(1)	(2)	(3)	(4)
	Panel B.1: Effect when Δ GSP / cap is			
	1 SD above average			
	Est. Net Entry	Est. Entry	Job creation rate (Births)	Startup Share
ΔLib. Ct.$_{[t-5,t]}$	-0.120	-0.221	-0.179	0.000
	(-0.50)	(-1.51)	(-1.19)	(0.08)
ΔLib. Ct.$_{[t-10,t-5]}$	-0.468**	-0.081	0.018	-0.002*
	(-2.23)	(-0.69)	(0.17)	(-1.85)
Stan. Δ GSP / cap Interact.	YES	YES	YES	YES
Other Control Variables	YES	YES	YES	YES
State Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
Adj. Within R-squared	0.380	0.489	0.186	0.522
Observations	1,850	1,850	1,850	1,836

	(1)	(2)	(3)	(4)
	Panel B.2: Effect when Δ GSP / cap is			
	1 SD below average			
	Est. Net Entry	Est. Entry	Job creation rate (Births)	Startup Share
ΔLib. Ct.$_{[t-5,t]}$	0.780***	0.532***	0.652***	0.006***
	(3.49)	(3.25)	(3.78)	(4.13)
ΔLib. Ct.$_{[t-10,t-5]}$	-0.326	0.255	0.365*	-0.002
	(-1.39)	(1.20)	(1.93)	(-1.09)
Stan. Δ GSP / cap Interact.	YES	YES	YES	YES
Other Control Variables	YES	YES	YES	YES
State Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
Adj. Within R-squared	0.380	0.489	0.186	0.522
Observations	1,850	1,850	1,850	1,836

Internet Appendix

for

Judicial Ideology and Business Dynamics

Table A.1: Robustness Tests on Judicial Ideology and Growth in Business Establishments

This table reports results from robustness tests on the relation between liberal judicial ideology and growth in business establishments. *Log (Estabs)* denotes the logged number of establishments. An establishment is a single physical location where business is conducted or where services or industrial operations are performed. *Est. Net Entry* is equal to *Est. Entry* minus *Est. Exit*. *Est. Entry* refers to the number of establishments that are newly founded, i.e. the number of establishments with age of 0 and identified as entrants by BDS, and *Est. Exit* refers to the number of establishments with zero employment in the current year and positive employment in the prior year. Columns (1) and (2) report results after dropping the State fixed effects from our specification in Table 2, Columns (3) and (4). Columns (3) and (4) report results after dropping the lagged dependent variables from our specification in Table 2, Columns (3) and (4). Coefficients in columns (1) and (3) are in percentage terms. Treatment and control variables are explained in detailed in Table 1. Adj. Within R-squared is rounded before reporting, and ***, **, and * indicate that the coefficient estimate is significantly different from zero at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
	All controls but State Fixed Effects		**All controls but lagged dependent variables**	
	Est. Net Entry	Log(Estabs)	Est. Net Entry	Log(Estabs)
$\Delta\text{Lib. Ct.}_{[t-5,t]}$	1.070***	0.013***	0.858***	0.020***
	(3.71)	(4.07)	(3.38)	(4.18)
$\Delta\text{Lib. Ct.}_{[t-10,t-5]}$	-0.151	-0.003	-0.336	0.005
	(-0.59)	(-1.17)	(-1.35)	(1.06)
$\Delta\text{Lib. Ct.}_{[t-15,t-10]}$	0.740***	0.009***	0.506*	0.012**
	(3.06)	(2.87)	(1.98)	(2.25)
$\Delta\text{Lib. Ct.}_{[t-20,t-15]}$	0.466**	0.006**	0.459*	0.007
	(2.02)	(2.11)	(1.92)	(1.58)
Est. Net Entry$_{-1}$	0.117*			
	(1.81)			
Log(Estabs$_{-1}$)		0.971***		
		(27.18)		
Controls	YES	YES	YES	YES
State Fixed Effects	NO	NO	YES	YES
Year Fixed Effects	YES	YES	YES	YES
Adj. Within R-squared	0.328	1.000	0.307	0.962
Observations	1,900	1,900	1,900	1,900

Table A.2: Longer-term Establishment Survival

This table reports additional findings on establishment survival rates. Columns 1 through 3 present our findings on 10-year survival rates, and Columns 4 and 5 present our findings on 15-year survival rates. Survival rates are as in Table 5, and $\Delta Lib.\,Ct._{[t-5,t]}$ variables are defined in Table 1. All regressions include identical control variables to those used in Table 1, which are defined in the caption to Table 1, as well as the lagged 1-year establishment survival rate. All regressions include state and year fixed effects. ***, **, and * indicate that the coefficient estimate is significantly different from zero at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
	10-year ahead survival rates			*15-year ahead survival rates*	
	1 to 4 years old incumbent	5 to 10 years old incumbent	11 to 15 years old incumbent	1 to 4 years old incumbent	5 to 10 years old incumbent
$\Delta Lib.\,Ct._{[t-5,t]}$	-0.015***	-0.014***	-0.002	-0.007	-0.007*
	(-3.13)	(-3.20)	(-0.47)	(-1.58)	(-1.88)
$\Delta Lib.\,Ct._{[t-10,t-5]}$	-0.005	-0.004	0.004	-0.001	-0.001
	(-1.29)	(-1.46)	(0.66)	(-0.25)	(-0.51)
$\Delta Lib.\,Ct._{[t-15,t-10]}$	-0.011***	-0.011***	-0.005	-0.007**	-0.008***
	(-3.01)	(-3.89)	(-1.62)	(-2.17)	(-3.36)
$\Delta Lib.\,Ct._{[t-20,t-15]}$	-0.006*	-0.008***	-0.006**	-0.002	-0.006**
	(-1.98)	(-3.47)	(-2.50)	(-0.82)	(-2.56)
Control Variables	YES	YES	YES	YES	YES
State Fixed Effects	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES
Adj. Within R-squared	0.670	0.564	0.486	0.645	0.540
Observations	1,173	1,071	816	918	816