LABOR DISPUTES AND JOB FLOWS

HENRI FRAISSE, FRANCIS KRAMARZ, AND CORINNE PROST*

Using a data set of individual labor disputes brought to French courts over the years 1996 to 2003, the authors use variations in local conditions of the activity of the labor courts to assess the effect of dismissal costs on the labor market. First, the authors present a simple theoretical framework to explain the links between litigation costs, judicial outcomes, and firing costs. Second, they regress job flows on indicators of judicial outcomes, using an instrument, based on local shocks in the supply of lawyers. They find that when the numbers of lawyers increase, workers litigate more often, which should increase the firing costs for the firms. This increased filing rate causes a large decrease in employment fluctuations, especially for shrinking or exiting firms. The total effect on employment growth is slightly positive, and this result is more sensitive to the adopted specification.

Following the seminal article by Lazear (1990), other researchers have extensively examined the effects of employment protection legislation (EPL) on labor markets through cross-country analyses, using indicators assumed to capture the national strictness of EPL (see Freeman 2007 for a critical review). One strand of literature proposes more refined identification strategies by assessing the impact of EPL within a single country. The variation of dismissal costs then usually stems from different laws across time and space or across employees and firms. This strategy typically involves measuring the impact of a change in legislation targeted to a specific

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KEYWORDS: employment protection legislation, job flows, labor disputes, unfair dismissal, France

ILR Review, 68(5), October 2015, pp. 1043–1077
DOI: 10.1177/0019793915591989. © The Author(s) 2015
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category within a whole country or—in the case of the United States—the impact of the differential timing in the introduction of a new EPL across different states. Autor, Donohue, and Schwab (2006) and Autor, Kerr, and Kugler (2007) took advantage of the between-state variation in the timing of the adoption of wrongful discharge laws in the United States. Kugler (1999) exploited a temporal change in the legislation in Colombia, which reduced severance payments as well as the variability in coverage between formal and informal sector workers. Other studies used laws that entailed smaller firing costs for small firms (Bauer, Bender, and Bonin 2007; Kugler and Pica 2008; Martins 2009). Still others relied on variations caused by legal probation periods (Ichino and Riphahn 2005; Marinescu 2009).

In this article we propose another source of variation of dismissal costs. Even when labor laws do not change, the functioning of the labor courts tends to vary over time and space. As pointed out by the OECD *Employment Outlook* (2004), even if an employer may be penalized for not respecting EPL, "these provisions are subject to court interpretation and this may constitute a major (but often hidden) source of variation in EPL strictness both across countries and over time" (66). Opening the black box of the labor courts seems a promising path. Judicial activity may sometimes matter more than the content of the law (see, for example, Bhattacharya and Daouk 2002, who found that insider trading laws decrease the cost of equity only when a case has been prosecuted).

For this study, we analyze the judicial process and its impact on the labor market. Each year the French EPL system produces a large number of legal procedures related to individual labor disputes (roughly 160,000 new cases every year, as we will see). About one in four dismissed workers indeed challenges his or her dismissal in front of a labor court.[1] Workers win almost half of these cases, requiring the firms to pay damages. Besides direct costs, these procedures can last for several months and involve uncertain issues, which are indirect costs for firms and workers. It is these legal procedures that we analyze in this article.

Yet using labor courts to assess the effect of dismissal costs on the labor market is not straightforward. The outcomes of the judicial processes at our disposal—the filing rate, the fraction of cases leading to a settlement or a trial, and the fraction of trials won by the workers—give an indirect and partial measure of dismissal costs faced by firms.[2] In addition, problems of endogeneity abound: court outcomes are not exogenous to market conditions. First, economic conditions have an effect on the quality of the cases brought to courts, leading to variations in the judicial outcomes. Second, market conditions may influence the court decisions. Ichino, Polo, and Rettore (2003), using micro data on labor court cases, focused on this institutional

[1]By comparison, approximately 1,000 cases were filed in 1986 in the entire state of California, which has a population and GDP close to those of France (these figures are taken from Dertouzos 1988). Notice, though, that arbitrators operate in the United States before intervention of the courts, but their efforts are not recorded in any registry (we thank John Abowd for pointing this out).

[2]The same applies to studies using the introduction of new laws or indices of EPL strictness to identify the impact of the EPL on labor markets.

endogeneity of EPL enforcement. Studying the case of an Italian bank over more than 20 years, they showed that a higher unemployment rate increases workers' probability of winning their cases. By contrast, Marinescu (2011)—using data from a 1992 survey of Employment Tribunal Applications in Great Britain—found that a higher unemployment rate leads to more decisions against the workers, in particular when they are already reemployed by the time of trial.

To cope with such endogeneity, we propose to analyze judicial activity, conditional on economic conditions. Litigation costs are key in this analysis. Firms should take into account litigation costs when they choose between a riskless but costly strategy to fire workers and a risky but potentially less costly option. Similarly, employees should make a cost-benefit analysis before choosing to litigate. We show with a stylized theoretical model how litigation costs drive both dismissal costs and the quality of the cases brought to court, thus judicial outcomes. This model shows that conditional on economic conditions, judicial outcomes do not have a simple and univocal interpretation in terms of dismissal costs because they depend on judicial costs. For instance, an increase in the number of filed cases may be the result of larger dismissal costs for the firms if it is attributable to a decrease in the workers' litigation costs. On the contrary, a larger number of filed cases may well come from smaller dismissal costs when the firms' litigation costs have decreased. The employers take more risks when firing workers, which leads to more trials, and thus they pay more on the extensive margin (more cases) but save on the intensive margins (less expensive cases). These composition effects apply not only to labor courts but also to divorce or more generally to any legislation that alters the decisions of workers, couples, and firms when they contract, sue, or indeed go to court.[3] Following the theoretical framework, we use litigation costs to instrument the indicators of judicial outcomes. More precisely, we use lawyer density as a proxy for legal fees.

On the *empirical* side, our contribution is threefold. First, we consider measures of judicial outcomes coming directly from legislation enforcement with variation across space and time.[4] In France, workers can contest the conditions of a firing by filing a case in one of the 264 local labor courts. We use information collected by the French Ministry of Justice on all cases that were filed from 1996 to 2003 to compute, for each geographical jurisdiction and each year, various indicators characterizing the enforcement of the labor laws. These include the percentage of dismissed workers who litigate in employment tribunals, the fraction of cases leading to a conciliation between parties, those that lead to a trial, and those that lead to a trial resulting in a worker's victory. We match these local indicators with a local measure of the legal environment, the density of lawyers, and with local measures of job flows à la Davis and Haltiwanger (1992).

[3]This has not escaped some analysts; see, for instance, Stevenson (2007) on legislation and divorce rates.

[4]Another kind of EPL enforcement is analyzed in Almeida and Carneiro (2009): the activity of the labor inspectors in Brazil.

Second, since our research is in France, a country in which many institutions are centralized and do not vary across the French territory (such as minimum wage, unemployment benefits, and wage bargaining), we are able to control for most of the French labor market institutions (see, however, Chemin and Wasmer 2009 on the noticeable exception of the working time reduction laws in one French region, Alsace-Moselle, and the one presented in this article as a robustness check). Third, we use an instrumental variable strategy to correct for the endogeneity from which estimation of the relation between economic conditions, including job flows, and application of the labor laws might suffer. The instrument relies on the location of universities training French lawyers, irrespective of their legal specialization, and the large increase in the number of lawyers during our period. We show that lawyer localization is disconnected from local business conditions. Then, after having shown through our stylized model the links between judicial outcomes and firing costs, we measure the effect of judicial indicators on job flows at the intensive as well as the extensive margins. Several articles assessing EPL also used job flows (see, for instance, Autor et al. 2007 and Kugler and Pica 2008). Unfortunately, because we lack worker-flows data for the very small firms in which a large fraction of our labor court cases take place, we cannot combine the joint analysis of job and worker flows as was done in Kugler and Pica (2008).

As in all the empirical studies we are aware of, this one focuses on the impact of labor regulations on labor market characteristics and leaves aside the welfare gains from job stability that must be taken into account for policy recommendations.[5] However, and in contrast with the existing empirical literature, our labor court outcomes capture some dimensions of the quality of labor relations that, according to Blanchard and Philippon (2004) and Algan and Cahuc (2009), are related to the evolution of labor market conditions.

Labor Courts in France: The Institutional Setting

French Firing Laws

Under current French law, a worker may be dismissed for either personal or economic reasons. Dismissals for economic reasons are redundancies because of a slowdown in business activity and are supposed to be independent of the quality of the employee. Personal dismissals are triggered by a worker's grave misconduct or an insufficient level of skill. In France, as in many European countries, an economic dismissal entails a more complicated and time-consuming process. This process is restrictive since the employees who can be fired first are defined by collective agreement according to their age, qualifications, and so forth. The process is also costly since the firms have to take measures, such as training courses, to help the employees to find other jobs. On the contrary, a dismissal for misconduct is a faster process—if not challenged by the worker—and implies a lower firing cost than a redundancy.

[5]See Bertola (2004) for a theoretical model considering risk-averse workers and the potential positive effect of EPL on welfare.

It is important to note that economic dismissals are rarely challenged in front of a court. In our data, indeed, 97.5% of the cases filed in the Prud'hommes come from personal rather than economic dismissals.[6]

When fired, a French worker may sue the firm.[7] Since the passage of legislation in 1973, every individual dismissal must be justified by a "real and serious cause," and the firm has the burden of proof on this issue. Although 30 years of jurisprudence have made this concept simultaneously blurred and precise, in general "real" means that the wrongdoing justifying the dismissal must be objectively defined, accurate, and in line with the mandatory firing notification letter. For example, being 10 minutes late does not mean being 70 minutes late; a lack of performance or a lack of trust is not considered real if it is not objectively measured. The cause is considered "serious" only if it is related to the professional activity of the worker and if it makes the labor relation impossible to continue. There are various degrees of seriousness. Some lead to "grave misconduct" (for example, a brawl or thievery), which allows the employer to fully deprive the worker of severance payment (in this case, the employees may also lose their unemployment benefits).

Over the 1996–2003 period under study and when the individual dismissal is deemed fair, firms have to pay severance of 1/10 of monthly salary per year of service. If the employee has worked more than 10 years in the firm, the severance amounts to 1/10 + 1/15 of monthly salary per year of service. If judges rule the dismissal unfair, the compensatory award depends on their estimates of the magnitude of the damages incurred by the worker. In this case, however, the compensatory award must be at least six months' pay if the employee has worked more than two years in the firm. Unfortunately, in France there are no data about these awards. Serverin (2002), relying on a survey of 7,962 cases collected in 1996, estimated that the average award asked by the worker equaled the annual (gross) minimum wage.

French Labor Courts

French labor justice is dispensed mainly by the "Prud'hommes," which are the relevant jurisdictions for every labor dispute arising at the individual level in France. During our period of analysis, 1996 to 2003, 264 Prud'hommes jurisdictions were spread all over metropolitan France, a tribunal being at most 30 miles from any establishment.

The judges in the Prud'hommes are not professional judges and are seen by some as performing a public duty. Each labor court comprises judges representing employers and those representing employees in equal number. They are elected every five years within lists established by worker

[6]When, for economic reasons, a firm with more than 50 employees needs to dismiss more than 10 employees within 30 days, the procedure becomes a "collective dismissal" and has to follow complex rules. In case of collective litigation, the case is treated by courts other than those treating personal dismissals. Nevertheless, the number of cases is small in those courts as well.

[7]The worker has to leave the firm when fired, even if he or she sues the employer. In the end, the court may reinstate the worker within the former employing firm, but it is extremely rare.

unions and employer federations. On the employee side, the electoral body includes all private-sector workers with a labor contract.

Prud'hommes are supposedly not very formal and should be seen as conciliation boards. They were designed to foster agreements rather than trials. Therefore, a first and mandatory step in each trial is a conciliation audience in which plaintiffs and defendants explain their grievance and judges try to push for an agreement.[8] If they are not successful, the case is judged. If, in the end, an equal number of judges decide in favor of and against a worker, there is a tie (*solution de départage*). In this case, a single professional judge decides the outcome of the trial.[9]

The plaintiff or the defendant can appeal the decision of the court if the stake is larger than a given threshold (about 5,000 euros in 2006). It is worth noting that 60% of the decisions were appealed in 2004. Among them, 55% of these appeals did not overrule the Prud'hommes' decision, and 30% confirmed it "partially."[10]

There are unfortunately no data on litigation costs. The Prud'hommes institution is seen as a public good, and thus filing a case is cheap. The costs are mainly those incurred by the representation. Workers can obtain legal help through other means than hiring a lawyer: a union member, a coworker, or an administrative officer can help the worker with his or her case. It is worth noting, however, that, according to our data, almost half of the workers who sue are represented by a lawyer. This contrasts with the situation in other countries for which this information is available (for instance, 18% of worker-plaintiffs in the United Kingdom have lawyers; see Fraisse 2010).

Judicial Activity and Firing Costs: A Simple Theoretical Framework

We develop a simple analytical framework to help us understand the relationships between the various legal steps within labor courts and firing costs, taking specifically into account the *conciliation* step in this judicial process. Our intention is not to break new theoretical ground but rather to focus ideas. In particular, this model will help us illustrate and understand our empirical strategy and results, as the links between firing costs and the outcomes of this judicial activity are ambiguous.[11]

[8]It is worth noting that in this respect, the French setting is close to that of almost every OECD country, where courts usually attempt to reach a compromise solution at the start of formal legal proceedings (see Venn 2009).

[9]Moreover, in case of an emergency, a summary judgment can be made. Such judgments are only temporary and might be overruled afterwards. In this article, we do not consider these summary judgments.

[10]Munoz-Perez and Serverin (2006). Unfortunately, current available data sets do not allow us to track the cases across the levels of jurisdictions; whether the decision is appealed by the worker or the firm is unknown.

[11]We do not study here the theoretical impact of firing costs on labor market variables. This has been extensively examined elsewhere. To sum up, standard models show that larger firing costs entail slower and smaller adjustments, with an ambiguous effect on employment (see, for instance, Bentolila and Bertola 1990), except if the firing cost can be endogenized by the firm during the wage bargaining (see, for instance, Garibaldi and Violante 2005. In their model, firing costs due to EPL are the sum of two terms—a transfer from the firm to the worker, which can be endogenized by the firm, and a tax paid outside the firm-worker pair resulting from the cost of the trial, which is a cost on labor that cannot be undone by side negotiations).

To illustrate how firing costs are related to judicial outcomes, we depart from the traditional model of litigation proposed by Priest and Klein (1984), Bebchuk (1984), and Card and McCall (2009) to run a cost-benefit analysis similar to the one proposed by Flanagan (1989) for disputes related to compliance with the National Labor Relations Act in the United States. For simplicity, the setting that we describe below has no uncertainty, no asymmetric information that would explain why trials take place; everything is known and predictable. We will return to this topic later and discuss how our results are affected by asymmetric information.

In our analysis, the employer can deliberately choose to pay a minimal firing cost and risk being sued by the worker or decide to pay a larger amount, which corresponds to the payment a plaintiff would accept in order to give up any further possibility of a lawsuit. Important to note here is that this last sum is not negotiated between the firm and the worker but comes directly from legal precedents (jurisprudence). In France, it should amount to one to two years of earnings (Kramarz and Michaud 2010). Another way of understanding the model is as follows: a firm chooses to dismiss the worker either for personal reasons, paying a small severance payment, or for an economic reason (redundancy) with larger severance payments.[12] Our hypothesis, then, is that when firms pay the severance payment corresponding to a redundancy, the workers never choose to sue the firm. When the worker goes to court after a dismissal, the firm has to prove that the case is a legitimate dismissal for personal reasons rather than a redundancy.

In the case of a dismissal for personal reasons, the firm incurs a minimum severance payment (c_m) if the dismissal remains unchallenged by the worker. This payment is lower than the maximum severance payment c_M, which leads the worker not to sue the firm. Yet the firm has to take into account the facts that the worker can file a suit ($p_f = 1$ if he does, $p_f = 0$ otherwise) and that he can then end the case with a formal agreement in front of the judge ($p_c = 1$ if he does, $p_c = 0$ otherwise). The firm also recognizes the probability that the worker wins if the trial occurs, p_w. We assume that during the conciliation step, the judge tries to reach an agreement using an "intermediary" severance payment c_c, given by the case law, always lower than c_M. Note that in order to simply introduce the coexistence of a conciliation stage and a trial stage we consider c_c to be constant. The firm cannot increase c_c in order to avoid trial.

The uncertainty of the entire process is summarized through p_w. The firm and the employee share this value. In this cost-benefit analysis, we assume that the quality of each case is known by both parties and is related to observed characteristics of the workers and of the firms. For instance, union or personnel delegates or pregnant women are very well protected by the law, and the judges tend to rule against dismissals of such individuals. Several past statements in judgments also show that judges demand more

[12]For an empirical illustration of a trade-off between two litigation processes, see Oyer and Schaefer (2000).

stringent evidence when a firm has had large positive profits in the years preceding the trial.[13]

At this point we have introduced no uncertainty, no asymmetric information that explains why trials take place. Theoretically, firms and workers should agree on a payment in order to avoid the litigation costs. Two features could be added to the model in order to explain why firms and workers go to the Prud'hommes and then, if ever, to trial. First, costs for reaching an agreement with the help of a private arbitrator could be larger than the costs at the conciliation stage of the legal procedure. This seems plausible since the Prud'hommes institution is seen as a public good and the conciliation stage is cheap. Second, in line with the literature in which trial is an equilibrium outcome, we can assume that the worker and the firm have different and irreconcilable expectations on the outcome of the trial. This assumption would lead to a "contract zone" in which a settlement amount can be found (see Bebchuk 1984). When the expectations are not in the contract zone, the trial takes place; otherwise an agreement can be found at the conciliation stage. Because there is a need to model expectations, computations become much less tractable. Our framework would lose its simplicity without gaining much insight for our purpose. In addition, as underlined by Spier (2007), such a model does not fully solve the litigation puzzle since the conciliation stage should help narrow expectations. From this discussion, it is, however, interesting to note that workers employed in *large* firms go much less often to Prud'hommes. In line with the above discussion, the various probabilities should be better known by the human resources management and union delegates who are always present in larger firms. Hence, these firms should escape trials and easily agree on separation payments. In small firms, conflicts often become personal and difficult to solve without the help of a neutral third party, a role apparently played by the Prud'hommes.

Analytical Framework

Now let us go back to our analytical framework. The parameters p_f and p_c, telling whether the case is filed and whether it ends at the conciliation stage, result from the optimization from the firm and the worker and are equal to either one or zero. The key parameters in our analysis will be the litigation costs. We note F, the compensatory award for the worker when he or she wins the case; l_c, the firm's litigation cost when the parties reach an agreement at the conciliation stage; l_t, the firm's litigation cost when the parties go to trial; and symmetrically k_c and k_t, the worker's litigation costs at the conciliation stage and the trial stage.

The employer dismisses the worker at the minimum cost instead of paying the maximum severance payments if the expected firing cost is smaller:

[13]Unfortunately, the data do not contain a firm identifier. Hence, it is not possible to directly relate firm and worker behavior.

$$p_f\left\{p_c(c_c+l_c)+(1-p_c)\left[p_w\left(c_m+F\right)+\left(1-p_w\right)c_m+l_t\right]\right\}+\left(1-p_f\right)c_m<c_M$$

As for the worker, he or she chooses to challenge his or her dismissal ($p_f = 1$) if his or her expected gain at trial or at the conciliation stage is larger than the minimum severance payment:

$$p_w\left(c_m+F\right)+\left(1-p_w\right)c_m-k_t>c_m \text{ or } c_c-k_c>c_m$$

Result 1

Under various technical assumptions (presented in the model in the Appendix), four potential regimes define judicial outcomes, depending on the value of p_w and three thresholds

$$\overline{p_w}, \overline{\overline{p_w}}, p_w^{**}: \overline{p_w}=\frac{k_t}{F}, \overline{\overline{p_w}}=\frac{c_c-c_m+k_t-k_c}{F}, \text{and } p_w^{**}=\frac{c_M-c_m-l_t}{F}.$$

For small probabilities $(p_w<\overline{p_w})$, no case is filed. Indeed, the firm pays c_m, and the worker does not go to court since the firm would refuse any conciliation procedure, whereas the gain at trial would be negative for the worker.

For larger probabilities $(\overline{p_w}<p_w<\overline{\overline{p_w}})$, conciliation takes place. Since the expected gain of the worker at trial is positive, he or she can credibly threaten the firm to go to a full hearing. The firm agrees to settle with the worker because the settlement amount is lower than the expected loss of the firm at trial (and larger than the expected gain of the worker).

For even larger probabilities $(\overline{\overline{p_w}}<p_w<p_w^{**})$, the worker is better off at the trial stage and refuses to conciliate anymore. The firing cost gradually increases when the probability of winning increases.

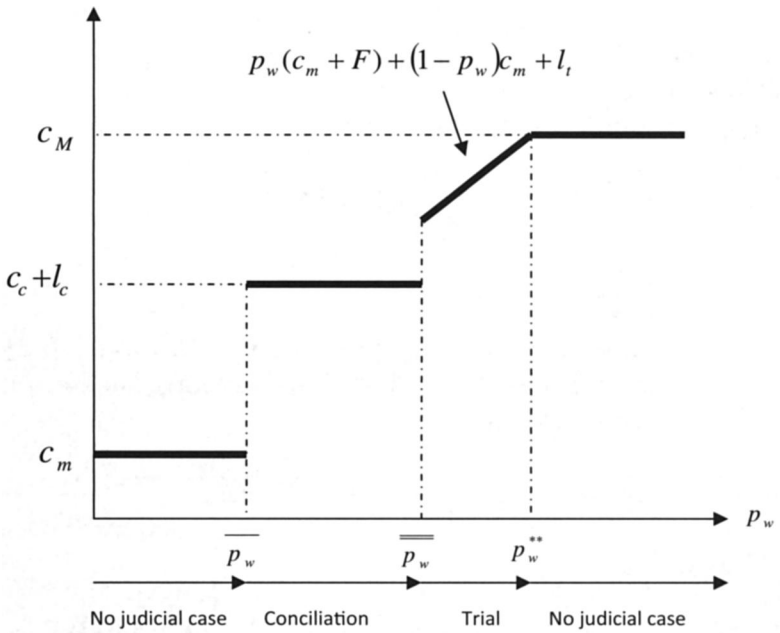
And finally, for the largest probabilities $(p_w>p_w^{**})$, the firm pays c_M up front to avoid the costs of going to court.

These regimes are presented in Figure 1, where the firing costs are graphed as a function of the probability of winning the case. Proofs are given in the Appendix. The technical assumptions are four inequalities between the different costs, which allow the four regimes to exist. For instance, the cost of trial for the firms must be large enough that the conciliation is less costly in some cases. Note that in our data the four regimes exist in all jurisdictions.

We can now illustrate the effects of changes in the litigation costs. Let us assume that economic conditions are given. We assume that the distribution of the case quality is invariant, meaning that the distribution of p_w of the dismissed persons is given. The total firing cost for the firm is given by:

$$\left[G(\overline{p_w})c_m+\left(G(\overline{\overline{p_w}})-G(\overline{p_w})\right)\left(c_c+l_c\right)+\left(G(p_w^{**})-G(\overline{\overline{p_w}})\right)\Omega(p_w)+\left(1-G(p_w^{**})\right)c_M\right]L$$

Figure 1. Firing Cost



where L is the number of fired workers, G is the cumulative distribution function of the case quality of these fired workers, and $\Omega(.)$ is the function $\Omega(p_w) = p_w(c_m + F) + (1 - p_w)c_m + l_t$. This firing cost is the area under the broken line in Figure 1, weighted by the distribution function of the case quality.

Suppose now that the litigation cost for the firm l_t increases. Figure 2 illustrates the results: p_w^{**} is the only threshold that changes (it decreases). The firm's expected cost at trial rises; thus the firm has a greater incentive to fire high-probability workers with an economic motive to avoid lawsuits. The total firing cost increases as the area under the full line is bigger than the area under the dashed line. This cost is larger even if the number of trials decreases.

Result 2

If the litigation cost for the firm l_t increases, the total firing cost increases, assuming that the distribution of the case quality is given. The numbers of filed cases and trials decrease, as does the quality of the filed cases.

Let us study the following case: an increase in the litigation cost for the worker k_t (see Figure 3). This increase results in a decreased probability for the workers to file a case (through a higher $\overline{p_w}$) and to go to the trial (through a higher $\overline{\overline{p_w}}$).

Result 3

If the litigation cost for the worker k_t increases, the total firing cost for the firm decreases. The numbers of filed cases and trials decrease, as in the previous situation.

Figure 2. Firing Cost, Case Outcomes, and an Increase in the Litigation Cost for the Firm

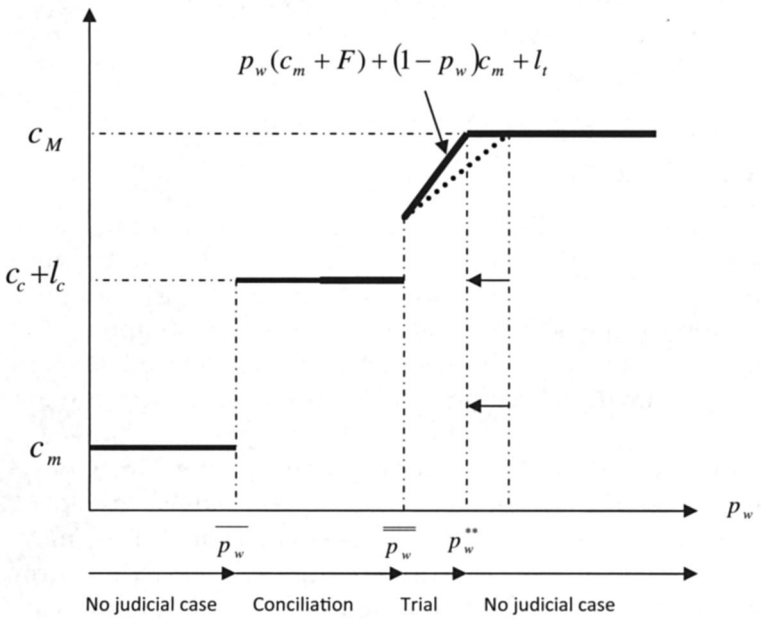
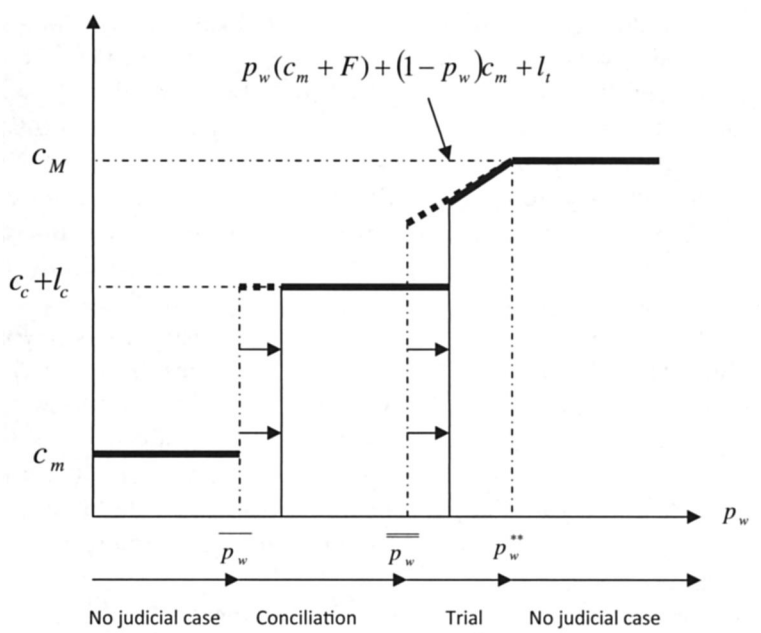


Figure 3. Firing Cost, Case Outcomes, and an Increase in the Litigation Cost for the Worker



This model shows that changes in the litigation costs have intuitive impacts on the firing costs: firing costs increase with firms' litigation costs and decrease with workers' litigation costs. In addition, changes in the litigation costs have an effect on judicial outcomes, which is an important factor that justifies our instrumental strategy. Yet the link between firing cost

and judicial outcomes is ambiguous; the model will be useful in interpreting the results of our instrumental strategy since we aim at assessing the effect of firing costs on the labor market.

Data and Methodology

Judicial Cases Data

Our data source on individual cases comes from administrative records made in each geographical jurisdiction and collected by the statistical department of the French Ministry of Justice. The primary goal of these data is to monitor the activity of labor courts with an emphasis on speed of treatment. The data source is exhaustive for the period 1996 to 2003. It includes approximately 1.3 million individual cases for eight years (around 160,000 cases each year).[14]

For each case, the starting date, the ending date, the motives for dismissal, and the court decision are recorded. An average case takes approximately one year (343 days) with a standard deviation of nine months.[15] For each case, we know the legal representation chosen by the firm and the plaintiff. Few characteristics of the employee-plaintiff are available: mainly gender and age. As for firms' characteristics, we know the industry and the size (more or fewer than 10 workers). Labor court judges have to know the size of the firm because labor laws differ for small firms; more specifically, the laws are less stringent and are intended to ease the costs of firing that could hurt small firms. Small firms are overrepresented with 56% of the filed cases, whereas they comprise 25% of the labor force.[16]

The motives for suing are multiple. In the majority of cases (58%) plaintiffs ask for nullification of a dismissal. Twenty-one percent ask for some compensation that was not paid by their former employer, whereas 9% of plaintiffs do not agree with the amount of their severance payment. Yet whatever the motive is, the judgments of the trials won by the workers are very similar: a compensatory award paid to the plaintiffs. Even when they ask for nullification of a dismissal, in the vast majority of cases won by the workers, they are not reinstated but receive a compensatory award. Thus in this article we do not distinguish between these different motives.

For any given case filed in a labor court, the range of outcomes is wide. A case can lead to a full tribunal hearing and be lost or won. It can be classified as null and void if the plaintiff has not shown due diligence in the conduct of the case. The case can also be crossed out. Finally, a case can be

[14]We will not consider the 2% of cases involving employers as plaintiffs.

[15]Because we use jurisdiction-level information for our analysis rather than case-level information, our tables will report jurisdiction-year statistics. All case-level statistics are available from the authors on request.

[16]The variable size of the firm exhibits a lot of missing values at the beginning of our period. Excluding 2003, which appears to be an outlier, the quality of the variable increases gradually (42% of missing value in 1996 to 14% in 2002). At the same time, the share of small firms increases (42% in 1996 to 90% in 2002). The average in our period, 56%, might be a lower bound. Because of these changes in the quality of the variable, we did not try to analyze the effects of judicial activity for small and large firms separately.

Table 1. Summary Statistics: Judicial Indicators and Job Flows

	Mean	*Std.*	*Min.*	*Max.*
Judicial indicators				
Filing rate	0.22	0.11	0.03	0.98
Conciliation rate	0.20	0.09	0.00	0.77
Trial rate	0.61	0.10	0.19	0.95
Worker winning rate	0.45	0.09	0.09	0.93
Job flows				
Job destructions	0.16	0.04	0.07	0.52
Job creations	0.16	0.06	0.05	0.71
Employment growth rate	0.00	0.07	−0.63	0.43
Firm exits (extensive margins)	0.10	0.05	0.01	0.66
Firm entries (extensive margins)	0.09	0.04	0.02	0.47
Instrument				
Lawyer density	0.0024	0.0047	0.0002	0.0464

Notes: Means of the jurisdiction*year indicators, over the 264 jurisdictions and the years 1996–2003. Because cases can also be dropped, the sum of the trial rate and of the conciliation rate is smaller than 1.

conciliated either during the conciliation step or outside the tribunal with a formal agreement sent to the court.

These data on individual cases are used to compute several aggregate measures of the cases examined in each jurisdiction-year pair. The first indicator relates to litigiousness: the filing rate, number of cases over the number of dismissed persons.[17] The three other indicators describe the main outcomes of the cases: the worker and the firm manage to conciliate, or they go to trial, and in that case, either the worker wins or not. Thus we build three indicators: the conciliation rate, the number of cases conciliated or leading to an agreement over the number of cases; the trial rate, the number of cases reaching trial over the number of cases;[18] and the worker winning rate, the number of cases leading to a victory for the worker over the number of cases.

During our period, 1996 to 2003, no changes were made to the labor laws. The number of cases treated by labor courts appears to be stable over the period, in stark contrast with what happened in some countries such as the United Kingdom, where a sharp increase took place (Burgess, Popper, and Wilson 2001). It is important to note that the percentage of filed cases among the dismissed persons is large (mean of 22%; see Table 1). Almost one dismissal in four ends in the labor court.

[17]No exhaustive statistics give the number of dismissed persons in France; we are thus obliged to have a proxy through the number of registered unemployed who declare being unemployed because of a dismissal. These figures come from a data set compiling the stock of unemployed registered at the national employment service at the end of the year (National Agency for Employment ANPE at this time) in each city, distinguishing the reasons for being unemployed (dismissal, entry into the labor force, end of temporary contract, etc.). As for job flows (see below), we aggregate these data at the jurisdiction level.

[18]Because cases can also be dropped, the sum of the conciliation and of the trial rates is smaller than one.

Despite the conciliation step, which is mandatory and promotes a quick and costless resolution of the cases, about 60% of cases end with a trial, among which 75% lead to a worker's victory. Of all filed cases, only 20% end at the conciliation stage or lead to an agreement notified to the court or to a withdrawal on the worker's side. Nineteen percent of the cases are crossed out or classified as null and void if the plaintiff has not shown due diligence in the conduct of his or her case.

All indicators of judicial activity display a very strong variance over time and across jurisdictions. Our model can help us understand two main sources of variability: business cycle and litigation costs. We will discuss below the links between the business cycle and judicial activity, which are a source of endogeneity. Then we will explain that institutional variability in the number of lawyers entails different litigation costs at the jurisdiction level. This will give us our instrument.

Job Flows Data

We want to assess the impact of our judicial indicators on the functioning of the local labor markets. Besides examining local employment, we build job flows variables to assess whether the effect of judicial activity is different on expanding and shrinking units. Local employment flows at the establishment level are computed from the French register of firms, SIRENE files, maintained at the French statistical institute (INSEE).[19] These files give the precise location (city) for each establishment. We compute a set of Davis and Haltiwanger (1992) indicators over the 1996–2003 period: annual job creations, job destructions, and net employment growth rates. Job creations equal employment gains summed over all expanding or new business units. Conversely, job destructions equal employment losses summed over all shrinking or exiting business units.

These measures are aggregated at the jurisdiction level, using a 1999 correspondence between cities and jurisdictions provided by the Ministry of Justice. The rates of job creations and job destructions from year t to year $t+1$ are computed relative to average employment in the two years. Thus the job creation rate is defined for the jurisdiction j and year t as:

$$POS_{jt} = \sum_{e \in E_{jt} / x_{et} > x_{et-1}} \frac{x_{et} - x_{et-1}}{(X_{jt-1} + X_{jt})/2}$$

where E_{jt} is the set of establishments in the jurisdiction j at time t, x_{et} is the number of jobs in the establishment e, and X_{jt} is the total number of jobs at the jurisdiction level.

The job destruction rate is defined as $NEG_{jt} = \sum_{e \in E_{jt} / x_{et} < x_{et-1}} \frac{|x_{et} - x_{et-1}|}{(X_{jt-1} + X_{jt})/2}$.

[19]Unfortunately, these data do not allow us to distinguish between open-ended contracts and short-term contracts.

Job reallocation equals job creations plus job destructions: it is an indicator of employment fluctuations. And the net employment growth rate is then

$$NET_{jt} = POS_{jt} - NEG_{jt} = \sum_{e \in E_{jt}} \frac{x_{et} - x_{et-1}}{(X_{jt-1} + X_{jt})/2}.$$

We also define rates at the extensive margins: creations due to new establishments and destructions due to exiting establishments.

$$ENT_{jt} = \sum_{e \in E_{jt}/x_{et-1}=0} \frac{x_{et}}{(X_{jt-1} + X_{jt})/2} \text{ and } EXITS_{jt} = \sum_{e \in E_{jt}/x_{et}=0} \frac{x_{et-1}}{(X_{jt-1} + X_{jt})/2}$$

In comparison with cross-country analyses, these indicators also show a high heterogeneity across periods and across the 264 geographical jurisdictions. The job creation rate and the job destruction rate hover around an average of 16%, with the mean of net employment growth rate being zero (see Table 1).

To measure local unemployment, we use the number of unemployed as registered at the public employment office (ANPE) for each city as well as the city labor force as measured at the 1999 Census. Unfortunately, there is no data set giving us the size of the temporary help service industry at the local level of the city. Hence, we cannot perform an analysis as done in Autor (2003). In contrast with other European countries (such as Spain), however, the fraction of temporary workers in French total private employment is low (about 2.5% in 2009).

Finally, we cannot analyze worker flows since such measures are not available for establishments with fewer than 10 workers and establishments in this category are the ones most commonly sued. In addition, because France has a dual labor market with both short-term and long-term contracts (see Abowd, Corbel, and Kramarz 1999), it is essential to also measure the contractual arrangements for an analysis of worker flows. Indeed, other studies show that in a dual labor market, like that in most European countries, an increase in dismissal costs may have an ambiguous impact on worker flows (see, for instance Addison and Teixeira 2003, for a survey of the literature, and Boeri 1999 for a theoretical model showing that strict EPL and large worker flows can coexist). The main explanation is the following: when it becomes more costly to fire employees on open-ended contracts, firms partly substitute short-term contracts for open-ended contracts (when hiring new employees).[20] This substitution should be partial since firms also need to build long-term relationships and since short-term contracts are regulated and cannot be used extensively and at will.[21] Yet by their nature, short-term contracts induce larger turnovers than do permanent contracts.[22]

[20]In European countries, dismissal costs for short-term contracts are usually very large, and so such dismissals are rare.

[21]In 2003, 12% of employees were employed with a short-term contract in France.

[22]Abowd et al. (1999) illustrated this point by showing that dismissals are a small fraction of separations in France; most separations are due to quits and ends of short-term contracts.

Thus an increase in firing costs of permanent contracts would imply lower flows from permanent workers but higher flows of those with temporary contracts, leading to an ambiguous effect in total worker flows.

Instrumental Variables: Discussion and First Stage

We want to assess the causal effect of our indicators describing labor disputes on job flows. Yet the judicial activity is likely to be endogenous. Our model can be used to discuss the endogeneity problems that we will face when estimating the relations between judicial outcomes and labor market characteristics. For instance, bad economic conditions probably change the distribution of the case quality among the dismissed persons. The distribution G of the model is then likely to change. If the proportion of persons having a good case increases, the filing rate would increase (except if the cases are too good, which would induce firms to pay enough to avoid trials). An adverse shock on the labor market conditions can also affect litigation costs through the level of compensatory award. According to the legislator, F compensates the worker for past and future potential wage losses, in particular by taking into account the difficulty of finding a new and comparable job. The magnitude of F is therefore likely to be countercyclical.[23] An economic downturn pushes $\overline{p_w}$, $\overline{\overline{p_w}}$, and p_w^{**} downward, which results, other things being equal, in higher firing costs. Moreover, economic conditions might also alter the overall distribution of p_w through judges' behavior. Judges showing a pro-worker bias when labor market conditions deteriorate increase the firing costs faced by the firms (see Ichino et al. 2003).

Thus we need instruments that explain the judicial outcomes observed at the level of the jurisdiction and are exogenous to current labor market developments. According to the model, a good instrument would be a source of variation of litigation costs exogenous to local economic conditions.

Our instrument is the number of lawyers enrolled at the local bar in every year— lawyers of all specialties, not only those specializing in labor disputes, a small fraction of the total—scaled by total employment of the jurisdiction ("lawyer density"). In France, each lawyer has to be licensed and registered at the local bar (*barreau*) in order to be entitled to practice. We know the number of lawyers registered at each such barreau from 1996 to 2006. It allows us to have a local estimate of the number of lawyers (divided by total employment in the jurisdiction). As there are fewer bars in France than Prud'hommes jurisdictions (181 versus 264), we match each jurisdiction to the closest bar using shortest-route distance and compute the number of lawyers available to employees who depend on a given jurisdiction. Using the 1999 Census, we find that the jurisdiction average is 24 lawyers per

[23]Regressions of our indicators of judicial activity on local unemployment rates show that they are strongly correlated with the cycle (see Table A.1). The cyclical behavior of collective conflicts has been extensively studied in the literature (see Harrison and Stewart 1994 and Devereux and Hart 2011). The evidence about individual disputes is less extensive (see, however, Siegelman and Donohue 1995).

10,000 persons in the labor force, going from a minimum of 2 to a maximum of 464 (see Table 1).

An increase in lawyer density is likely to reduce legal fees thanks to greater competition (see Siegelman and Donohue 1995 for a similar argument). It is important to note that the level of legal fees in France is unregulated; the law frames the types of prices (which, for instance, cannot be entirely determined by the judicial outcome) but not the level of prices. Increased lawyer density also helps to disseminate legal expertise and judicial knowledge of labor disputes among the population of workers. It should correspond to a lower cost of litigation for the worker (k_t and k_c in our model) and hence influence judicial activity and case outcomes. Our model produces this result even without assuming that being represented by a lawyer increases the probability of winning.

Given data availability, it is empirically hard to test such a relationship in the French case. There are no data on legal fees, yet it is possible to verify that lawyer density is negatively correlated to lawyer income. Exploiting a 2008 report published by the French National Bar, we are able to regress at the regional level—there are 21 regions in France—lawyer income on lawyer density controlling for mean wages (to correct for regional differences in the cost of living and income). In this regression estimated for the year 2006, the coefficient of the density variable is negative and strongly significant.[24] Thus changes in lawyer density within a jurisdiction should influence judicial outcomes through the cost of the litigation process.

One could argue that the lawyer's choice of location depends on local economic conditions. First, labor disputes comprise only a small part of the total number of civil cases (11% at the national level);[25] thus it is unlikely that the labor market of the lawyers is affected by the activity of the Prud'hommes. Second, in order to get a license to practice, a lawyer must enroll in a local bar. This requirement and the building of a reputation and a clientele lead to a low mobility of lawyers from one region to another.

We think there are two main factors explaining the lawyers' location preferences, which are unrelated to the incidence of labor disputes litigation: the location of their law schools and the region where they were born (these are often the same). First, a lawyer typically *enrolls in the bar in the city where he or she studied:* legal studies are vocational and include a period of apprenticeship, usually in a nearby law firm.[26]

A second factor explaining the location preferences is the region of birth. This is not specific to lawyers,[27] but lawyers can settle close to their region of

[24]Results are available from the authors.

[25]See available online the release of statistics by the Ministry of Justice Infostat justice (2005), Une évaluation de l'activité des juridictions en 2004, No. 80. Accessed at http://www.justice.gouv.fr/art_pix/infostat80.pdf.

[26]It is worth noting that in France, very few lawyers are employees even when they work in a law firm. Thus building and keeping a clientele are crucial.

[27]See, for instance, the many studies on teachers finding that the distance between their place of birth and place of work is one of the main driving forces for teacher mobility. The literature on the labor market of physicians also shows that personal determinants play a greater role than economical determinants in the location choices.

birth more easily than can many of those in other similar occupations with labor markets less dispersed geographically. To illustrate this, we used the Labor Force Survey to compute descriptive statistics on the percentage of workers who work in their birth *département*.[28] We restrict the comparison to the persons born in metropolitan France who have a university degree. In 2004, this percentage was 45% for the lawyers but only 14% for the engineers. This figure is particularly high, and we must bear in mind that it does not correct for the fact that the département where the lawyer lived during his or her childhood may be different from the one where he was born.

In our empirical strategy, we include jurisdiction fixed effects. Thus we can estimate effects on the basis of changes in lawyer density *within* a jurisdiction. We benefit from large demographic changes during our period of estimation. Between 1996 and 2003, the number of lawyers increased continuously, with an average growth rate of 3.7%: there were 60,000 lawyers in 1996 and 78,000 in 2003. This increase is explained largely by the global increase in France of students attending universities during the 1990s, in particular of female students. As we said, a large percentage of these students enroll in the bar close to their university. Thus the increase in the number of students, including students in law schools, entailed an increase of the number of lawyers in those regions where there is a law school. To see this, first note that there are only 12 law schools spread over the French territory (see Figure 4). Then observe the strong overlap between these areas where lawyers are trained and those that see the strongest increase in lawyer density over our time period (see Figure 5).

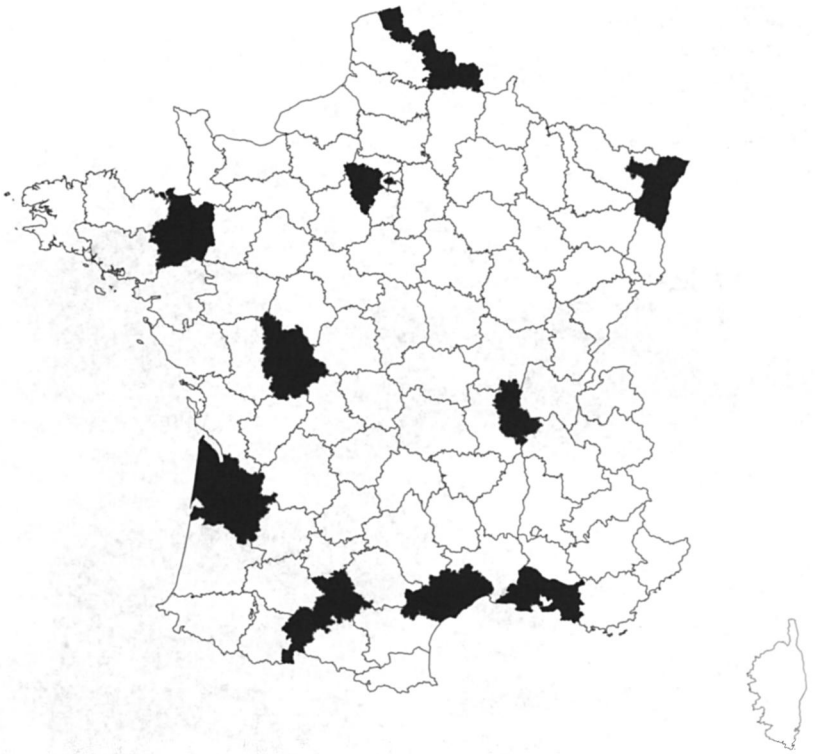
To sum up, changes in lawyer density are likely to be exogenous with respect to current labor market developments because lawyers' mobility is driven mostly by exogenous supply shocks due to demography and lawyers' location preferences, therefore making lawyer density a plausible instrument. Further supporting the identifying assumption that local labor market conditions are disconnected from the increase in lawyer density is the fact that lagged job flows are found to have no predicting power on lawyer density when we include jurisdiction fixed effects and year dummies (see Appendix Table A.2).

First Stage

Table 2 presents the instrumental regressions (first stage) for each of our indicators of judicial activity on lawyer density, controls (year and business cycle indicators, appropriately transformed as will be described later), and jurisdiction fixed effects. Lawyer density positively affects filing and conciliation but negatively affects trials and workers' victory. Hence a larger supply of lawyers appears to favor the rule of law (more filings) and reinforce the negotiating role of lawyers over their lawsuit role. In the following, our preferred specifications are the ones with the filing rate and the conciliation rate, since in both cases, the first stages display large *F*-tests (see Table 2).

[28]A French *département* is equivalent to an American county.

Figure 4. Location of the Universities Training Lawyers



Note: The départements where universities are training lawyers are in black.

We examine now whether these estimates can be better understood in light of our model. Consider lawyers and assume that an increase in their number induces a decrease in the costs of litigation for the worker (k_t and k_c), the decrease being larger for the cost at the trial stage than at the conciliation stage. We assume that the impact on the costs of litigation for the firm is negligible.[29] Under such assumptions, the model shows that $\underline{p_w}$ decreases more than $\overline{p_w}$: more workers file a case since it is less costly, and they end the case more often at the conciliation stage than at the trial stage. Finally, the firing cost increases for the firms (see Figure 6). The filing rate increases since the number of dismissals is supposed to be constant. This is consistent with the results of the first stage in Table 2: more lawyers imply a higher filing rate. As for the conciliation rate and the trial rate, the results of the model are ambiguous since the denominator is the number of filed cases, which increases. The results depend on the distribution of p_w. If the distribution is uniform, we find the same results as those in Table 2: a higher conciliation rate, a lower trial rate, and a lower worker winning rate since the new workers who litigate have smaller probabilities of winning.

[29]Another way of understanding this hypothesis would be to assume that workers are more cost sensitive than firms. In any case, this hypothesis seems to be confirmed by the data. When we regress the fraction of firms represented by a lawyer on the lawyer density, it appears that the supply of lawyers has no significant effect on the firm lawyer rate. On the contrary, the fraction of workers represented by a lawyer is positively correlated with the lawyer density. Results are available from the authors.

Figure 5. Changes in Lawyer Density between 1996 and 2003 across French Départements

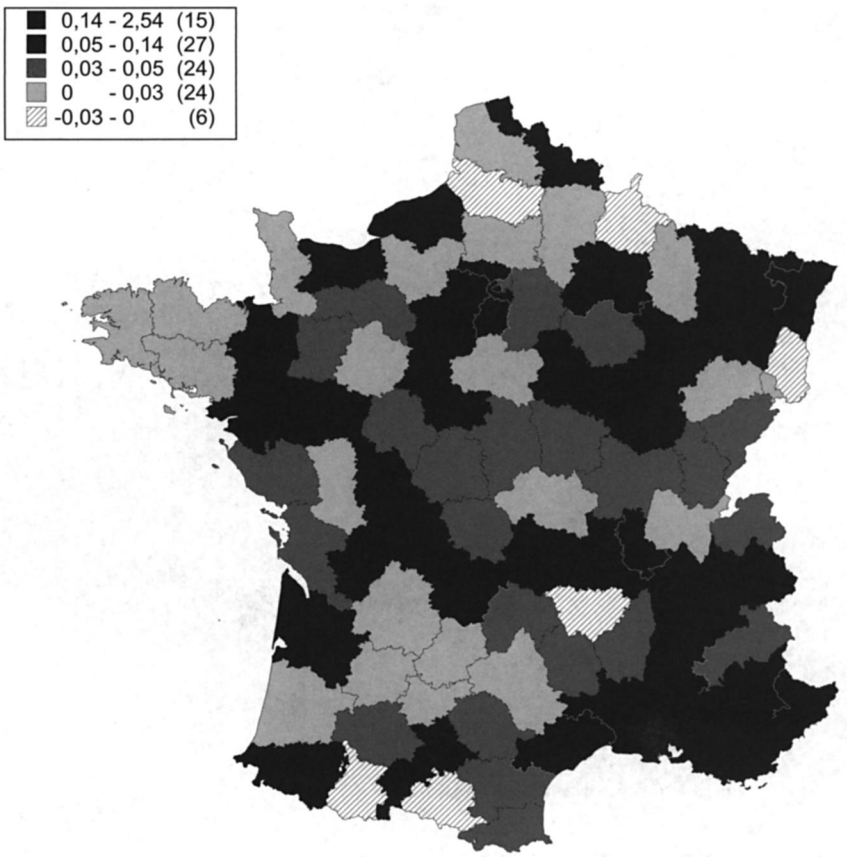


Table 2. First Stage Regressions: Effect of Legal Inputs on Judicial Indicators

	Filing rate	*Conciliation rate*	*Trial rate*	*Worker winning rate*
Lawyers	10.390***	7.331***	−7.539***	−3.864***
	(1.629)	(2.059)	(2.647)	(1.347)
R-squared	0.14	0.27	0.22	0.19
F-test of joint significance (*p*-value)	40.68 (0.000)	12.67 (0.000)	8.11 (0.004)	8.21 (0.000)

Notes: Robust standard errors are in parentheses. Observations are for 264 jurisdictions and for the years 1996–2003 (2,112 observations). Each regression includes jurisdiction and year fixed effects, and local business cycle indicators. 1999 labor force of the jurisdictions is used as weights. Clusters: jurisdiction level. *F* is the *F* statistic of the joint significance of the variables.
*Significant at 10%; ** significant at 5%; *** significant at 1%.

Reduced-Form Regression

To check that our instrument is well correlated with job flows, we estimate the reduced-form regression (see Table 3). Lawyer density has a strong negative effect on job destructions, resulting in a clear positive effect on net employment growth since job creations are barely affected. Half of the

Figure 6. Firing Cost, Case Outcomes, and a Decrease in Lawyers' Costs

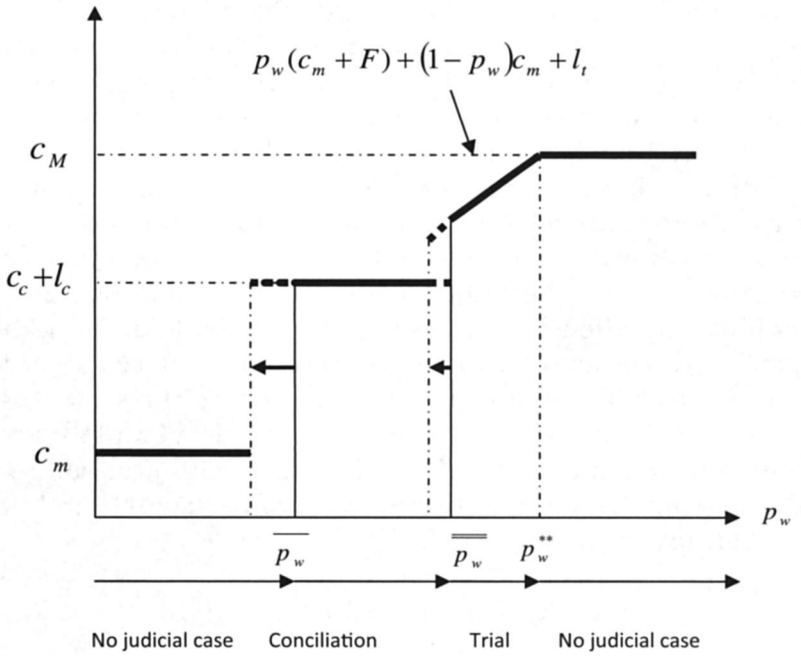


Table 3. Judicial Indicators on Job Flows: Reduced-Form Regressions

				Extensive margin	
	Job destructions	*Job creations*	*Employment growth*	*Firm exits*	*Firm entries*
Lawyers	−6.250***	−1.053	5.197***	−3.320**	1.008
	(1.041)	(1.060)	(1.440)	(1.289)	(1.160)
R-squared	0.42	0.46	0.56	0.48	0.41

Notes: Robust standard errors are in parentheses. Observations are for 264 jurisdictions and for the years 1996–2003 (2,112 observations). Each regression includes jurisdiction and year fixed effects, and local business cycle indicators. 1999 labor force of the jurisdictions is used as weights. Clusters: jurisdiction level.
*Significant at 10%; ** significant at 5%; *** significant at 1%.

effect on job destructions comes from the extensive margin, meaning a smaller destruction rate of firms. Yet this last effect is less significant.

Main Empirical Results

Now we can turn to our main econometric model:

$$Flows_{j,t} = \alpha_1 BC_{j,t} + \alpha_2 BC_{j,t-1} + \beta JudicialInd_{j,t} + \delta_j + \gamma_t + \varepsilon_{j,t} \quad (1)$$

where $JudicialInd_{j,t}$ is an indicator of judicial activity where the unit of observation is a Prud'hommes jurisdiction j for year t. $BC_{j,t}$ is a business

cycle indicator. Our labor market variables $Flows_{j,t}$ are the job flows at the jurisdiction level j at date t. δ_j is a jurisdiction fixed effect; γ_t is the year indicator, and $\varepsilon_{j,t}$ is the residual. In each regression, observations are clustered at the local jurisdiction level. The jurisdiction areas display a large heterogeneity in size (measured by labor force or employment). We weight our regressions by the 1999 labor force of the jurisdiction area.

We cannot use a business indicator such as the local unemployment rate, which is clearly too directly correlated to the job flows. Local unemployment rate probably reflects unobserved economic shocks, which simultaneously affect the quality of the cases brought to labor court, bias the judges in their decisions, and affect the job flows. Thus we build an indicator of the business cycle, which takes into account the initial differences across jurisdictions and reflects the national business cycle. To do so, we instrument the measure of the local business cycle (number of unemployed registered at the local employment agency divided by the 1999 local labor force) by the *national* unemployment rate (in the spirit of Bartik 1991 and Blanchard and Katz 1992) using the following relation:

$$U_{p,t} = \delta_p + \gamma_t + \mu_p U_t^{aggregate} + \eta_{p,t} \tag{2}$$

Then we use the *predicted* value $\hat{U}_{p,t}$ of $U_{p,t}$ by (2) to compute our exogenous measure of cycle BC as $\frac{(\bar{U}_p - \hat{U}_{p,t})}{\bar{U}_p}$ where $\bar{U}_p$ is the average of the *predicted* local unemployment rate $\hat{U}_{p,t}$.

Table 4A presents estimates of Model (1) using OLS, without any control, except for jurisdiction fixed effects. Coefficients are often significant and close to 0.1–0.2. The filing rate and the conciliation rate are positively related to job destructions and negatively related to job creations and employment changes. The opposite is observed for the trial rate and the worker winning rate.

Table 4B presents estimates of the same OLS equation with additional controls for the prevailing economic conditions: year fixed effects and business cycle indicators. Most of the coefficients become non-significant; those that are significant have the opposite sign to that of Table 4A. Hence, OLS estimates are very sensitive to the business cycle, the major source of endogeneity, as advocated above.

To estimate the parameter β measuring the causal impact of judicial activity on job flows, we adopt the instrumental approach described above and therefore project our judicial indicators on our instrument, business cycle indicators, year dummies, and local labor market fixed effects.

Our IV results are presented in Table 5. The estimated coefficients are of the same sign as in our OLS specification with business cycle controls (Table 4B). But now, most estimated coefficients are significant and of larger magnitude. In particular, an increase in filing rates dampens employment fluctuations, mostly in shrinking firms (job destructions), with a small positive

Table 4A. Judicial Indicators on Job Flows: OLS Estimates without Any Controls for Business Cycle

				Extensive margin	
	Job destructions	*Job creations*	*Employment growth*	*Firm exits*	*Firm entries*
Filing rate	0.087***	−0.024*	−0.111***	0.086***	−0.028**
	(0.024)	(0.015)	(0.030)	(0.023)	(0.014)
R-squared	0.01	0.00	0.01	0.01	0.003
Conciliation rate	0.179***	−0.107***	−0.287***	0.211***	−0.060***
	(0.025)	(0.017)	(0.031)	(0.025)	(0.013)
R-squared	0.06	0.04	0.08	0.09	0.014
Trial rate	−0.103***	0.064***	0.167***	−0.141***	0.029**
	(0.021)	(0.016)	(0.031)	(0.018)	(0.014)
R-squared	0.03	0.02	0.04	0.05	0.004
Worker winning rate	−0.117***	0.081***	0.198***	−0.152***	0.028**
	(0.023)	(0.017)	(0.033)	(0.022)	(0.014)
R-squared	0.03	0.02	0.04	0.05	0.003

Notes: Robust standard errors are in parentheses. Observations are for 264 jurisdictions and for the years 1996–2003 (2,112 observations). Each regression includes jurisdiction fixed effects but no year fixed effects and no local business cycle indicators. 1999 labor force of the jurisdictions is used as weights. Clusters: jurisdiction level.
*Significant at 10%; ** significant at 5%; *** significant at 1%.

Table 4B. Judicial Indicators on Job Flows: OLS Estimates with All Controls

				Extensive margin	
	Job destructions	*Job creations*	*Employment growth*	*Firm exits*	*Firm entries*
Filing rate	0.017	−0.007	−0.024	0.005	−0.009
	(0.019)	(0.013)	(0.021)	(0.017)	(0.011)
R-squared	0.43	0.48	0.59	0.46	0.45
Conciliation rate	−0.044**	−0.005	0.039*	−0.035*	−0.005
	(0.022)	(0.013)	(0.022)	(0.021)	(0.012)
R-squared	0.40	0.47	0.56	0.46	0.42
Trial rate	0.036**	0.004	−0.032	0.025	0.003
	(0.018)	(0.011)	(0.021)	(0.017)	(0.010)
R-squared	0.40	0.47	0.56	0.46	0.42
Worker winning rate	0.038**	0.007	−0.031	0.028	0.008
	(0.018)	(0.012)	(0.021)	(0.018)	(0.010)
R-squared	0.40	0.47	0.56	0.46	0.42

Notes: Robust standard errors are in parentheses. Observations are for 264 jurisdictions and for the years 1996–2003 (2,112 observations). Each regression includes jurisdiction and year fixed effects, and local business cycle indicators. 1999 labor force of the jurisdictions is used as weights. Clusters: jurisdiction level.
*Significant at 10%; ** significant at 5%; *** significant at 1%.

aggregate effect. The effect on job destructions comes partly from the extensive margin, the coefficient being negative albeit marginally significant. Moreover, a larger conciliation rate dampens job destructions when a

Table 5. Judicial Indicators on Job Flows: 2SLS Estimates

				Extensive margins	
	Job destructions	*Job creations*	*Employment growth*	*Firm exits*	*Firm entries*
Filing rate	−0.674***	−0.272**	0.402*	−0.322*	−0.0260
	(0.179)	(0.131)	(0.214)	(0.179)	(0.128)
R-squared	0.21	0.31	0.46	0.30	0.45
Conciliation rate	−0.853***	−0.144	0.709**	−0.453*	0.138
	(0.297)	(0.142)	(0.314)	(0.249)	(0.171)
R-squared	0.44	0.41	0.25	0.23	0.35
Trial rate	0.829**	0.140	−0.689**	0.440*	−0.134
	(0.344)	(0.168)	(0.278)	(0.243)	(0.142)
R-squared	0.73	0.40	0.13	0.13	0.33
Worker winning rate	1.617***	0.273	−1.345**	0.859**	−0.261
	(0.608)	(0.305)	(0.541)	(0.426)	(0.297)
R-squared	0.31	0.28	0.19	0.65	0.17

Notes: Robust standard errors are between parentheses. Observations are for 264 jurisdictions and for the years 1996–2003 (2,112 observations). Each regression includes jurisdiction and year fixed effects, and local business cycle indicators. 1999 labor force of the jurisdictions is used as weights. Clusters: jurisdiction level.
*Significant at 10%; ** significant at 5%; *** significant at 1%.

larger trial rate and a larger worker winning rate both increase job destructions. Hence, our IV results appear to better control for the endogeneity due to the business cycle with its joint effect on job flows and filing rates.

All signs are consistent with our previous analysis based on the theoretical model. To sum up, a larger lawyer density encourages workers to file their cases, presumably because it is less costly for them to challenge their dismissals. Hence more workers go to court, with lower probabilities of winning. Proportionally, more of them find an interest in ending the case at the conciliation stage rather than at the trial stage. Thus the conciliation rate increases, the trial rate decreases, and the worker winning rate decreases since those workers who go to the trial stage also have a lower probability of winning. All these judicial outcomes are accompanied by an increase in the firing costs for the firm. Table 5 shows that this increase is followed by a decrease in employment fluctuations, with a larger effect on shrinking firms. Thus there is a positive effect on employment growth. Yet this last result is less robust since the coefficient is less significant in the filing rate specification, which is our preferred IV specification.

The estimated effects are large. A one-standard-deviation increase in the conciliation rate or in the filing rate decreases the job destruction rate by 1.8 standard deviations: job destructions (i.e., the growth rate of employment losses) are decreased by seven percentage points in jurisdictions where the filing rate is one standard deviation larger. The effects on net employment growth are smaller: they stand between 0.6 and 1.1 standard deviations (in absolute value) according to the filing rate and the conciliation

rate specifications. Thus total employment growth rate is larger by four to seven percentage points in jurisdictions where the filing rate is one standard deviation larger.

Our results are difficult to compare with those contained in previous studies since most of them estimate EPL effects through changes in legislation. Our results showing that larger firing costs entail fewer employment fluctuations are consistent with Autor et al. (2007) and Kugler and Pica (2008). Autor et al. (2007) also found a positive effect on employment growth. In their article they appeared skeptical about this result. Yet we bring another piece of evidence that firing costs could, in the short term, increase employment level. This is not contradictory with standard theoretical models that are ambiguous on employment effects, but it differs from most empirical studies in which the effects on aggregate employment stocks are either negative or insignificant. However, our analysis focuses on very short-term effects since our estimates are on employment growth with jurisdiction fixed effects. This could be an explanation for why our study differs from those that estimate long-term effects (as in cross-countries analyses).

That judicial activity has an immediate causal effect on job flows might seem surprising. First, similar regressions using lagged (one year) indicators of judicial outcomes give similar results. Second, even though the dynamics of our indicators are not easy to understand, it is important to remember that the outcomes of cases are measured in the year when the case ends. Hence, most cases have started in the preceding year (or even earlier). Firms therefore have a relatively clear view of the process as well as of the probability of winning their case, especially since (roughly) one-fourth of dismissals end in court; most employers have experienced at least one and often multiple trials.

Abowd et al. (1999) showed that French establishments with 50 or more employees use entries more intensively than exits as the main tool for adjusting employment. More precisely, they always hire at an increasing rate with employment growth (see Figure 1 in Abowd et al. 1999). Simultaneously, separations are flat *except* for the very largest job destructions, when establishments drastically increase firings. Using such results, we may attempt to interpret our findings in terms of worker flows as long as most adjustments are relatively small and assuming that the way of using worker flows to adjust employment is more similar in small establishments than in establishments with 50 or more employees. Under these assumptions, since larger firing costs decrease employment growth, this decrease should come from fewer entries, this effect being larger in shrinking firms. Since we expect long-term contracts to be partly replaced by short-term contracts, our results suggest that when firms reduce total entries because of more costly court cases, they will mostly achieve this reduction by reducing entries under open-ended contracts, even though entries under short-term contracts might still increase.

Robustness Check

The effects of our judicial outcomes on job flows are large. In order to assess their plausibility we provide one robustness assessment. This check exploits a natural experiment run at the local level in the jurisdiction of Grenoble. Grenoble is a city located at the foot of the French Alps in southeastern France. The jurisdiction of the labor court of Grenoble is the 15th largest as measured by its 1999 labor force (254,567). In 1996, in order to facilitate dispute resolution, the French Parliament passed a law empowering the judges to mandate a mediator. This law went unheeded, since labor courts were already supposed to invite the parties to stop the case before trial thanks to the mandatory stage of conciliation. In 1995, Judge Béatrice Blohorn-Brenneur was appointed President of the Social Division of the Court of appeals in Grenoble and decided to exploit the possibilities offered by this law in order to boost the conciliation process. Starting in 1998, this was done by 1) sending out an information letter and a questionnaire to the parties in order to increase their awareness of mediation, 2) offering mediation and conflict management training to the judges of Grenoble, and 3) organizing specific hearings where mediation services were proposed to the parties.[30] We will see that this experiment led to a strong increase in the conciliation rate from 1998 onwards in the Grenoble jurisdiction. In order to assess its impact on job flows, we run a simple difference-in-difference regression of the form:

$$(3) \qquad Flows_{p,t} = \alpha_1 BC_{p,t} + \alpha_2 BC_{p,t-1} + \beta \times Grenoble \times Post1998 + \delta_p + \gamma_t + \varepsilon_{p,t}$$

where Grenoble is an indicator equal to one for the jurisdiction of Grenoble interacted with an indicator equal to one during the treatment period (1998–2003). We present in Table 6A the estimates of Equation (3) using different control groups. First, we use all other French jurisdictions. Results are presented in the first panel of Table 6A. Then, because some local specific shocks might put at risk the identifying assumption of this first difference-in-difference method, we consider the following control groups: 1) the jurisdictions of similar sizes (i.e., with a 1999 labor force between 150,000 and 400,000) and 2) the jurisdictions surrounding the Grenoble jurisdiction (the other jurisdictions within Isère, the département where Grenoble is located, and the jurisdictions belonging to départements contiguous to Isère). Results are presented in the second and third panels of Table 6A, respectively. The last column of this table presents the estimated impact of the experiment on the conciliation rate (i.e., the estimates of β associated with Equation (3) where the conciliation rate is the endogenous variable).

First, focusing on this last column and as claimed above, the Grenoble experiment substantially increased the conciliation rate by around eight percentage points—that is, about one standard deviation of the conciliation

[30]See Blohorn-Brenneur (2010). The summary in English of the whole report is to be found at pages 191–97. Judge Blohorn-Brenneur, along with others, founded the European Association of Judges for Mediation in 2003.

Table 6A. Impact of the Conciliation Rate: Difference-in-Difference Estimates of the Brenner Experiment

	Job destructions	*Job creations*	*Employment growth*	*Conciliation rate*
Treatment group: Jurisdiction of Grenoble				
Control group: Rest of France				
Observations = 3432 (264 jurisdictions)				
Grenoble*Post1998	−0.037***	−0.030***	0.007***	0.083***
	(0.002)	(0.002)	(0.002)	(0.004)
R-squared	0.33	0.38	0.46	0.11
Control group: Jurisdictions of similar size				
Observations = 494 (38 jurisdictions)				
Grenoble*Post1998	−0.041***	−0.035***	0.006	0.064***
	(0.003)	(0.004)	(0.004)	(0.006)
R-squared	0.38	0.50	0.56	0.30
Control group: Jurisdictions within contiguous départements				
Observations = 416 (32 jurisdictions)				
Grenoble*Post1998	−0.021***	−0.017***	0.004	0.071***
	(0.004)	(0.003)	(0.004)	(0.008)
R-squared	0.41	0.62	0.60	0.18

Notes: Robust standard errors are in parentheses. Observations are for the years 1991-2003. Each regression includes jurisdiction and year fixed effects. Clusters: jurisdiction level. Grenoble is a variable equal to 1 for the jurisdiction of Grenoble. Post1998 is a variable equal to 1 if the year of observation is after 1998. Grenoble*Post1998 is a variable equal to 1 for the jurisdiction of Grenoble after 1998. This is the difference-in-difference variable of interest.
*Significant at 10%; ** significant at 5%; *** significant at 1%.

rate measured across years and jurisdictions. The difference is similar when Grenoble is compared with contiguous jurisdictions and jurisdictions of similar size. When we turn to the effect of the experiment on job flows, we see that a higher conciliation rate dampens job destructions; this result is similar to the one in our instrumental approach. Although obtained in slightly different time periods and with different identification strategies (interpretable as a local average treatment effect, as suggested by Imbens and Angrist 1994), the two measures of the causal impact of the conciliation rate on job destructions have similar magnitudes.

To compare the magnitudes more precisely, we run an IV estimation using the difference-in-difference variable (i.e., Grenoble*Post1998 indicator) as an instrument, as in Duflo (2001). Results are given in Table 6B. We find coefficients on job destructions that are very similar to those in the IV specification using lawyer density. The results on job creations and employment growth are less coherent in the magnitudes of the estimates; nevertheless the signs are the same.

Conclusion

This article exploits judicial activity as a source of variation in dismissal costs. In France, a large part of the firing cost comes from the compensatory

Table 6B. Judicial Indicators on Job Flows: 2SLS Estimates using the Brenner Experiment

	Job destructions	*Job creations*	*Employment growth*
Control group: Rest of France			
Observations = 3432 (264 jurisdictions)			
Conciliation rate	−0.445***	−0.357***	0.088***
	(0.031)	(0.027)	(0.021)
R-squared	0.03	0.07	0.46
Control group: Jurisdictions of similar size			
Observations = 494 (38 jurisdictions)			
Conciliation rate	−0.645***	−0.548***	0.097
	(0.083)	(0.079)	(0.060)
R-squared	0.00	0.13	0.56
Control group: Jurisdictions within contiguous départements			
Observations = 416 (32 jurisdictions)			
Conciliation rate	−0.289***	−0.235***	0.054
	(0.059)	(0.045)	(0.056)
R-squared	0.24	0.54	0.60

Notes: Robust standard errors are between parentheses. Observations are for the years 1991-2003. Each regression includes jurisdiction and year fixed effects. Clusters: jurisdiction level. Grenoble is a variable equal to 1 for the jurisdiction of Grenoble. Post1998 is a variable equal to 1 if the year of observation is after 1998. Grenoble*Post1998 is a variable equal to 1 for the jurisdiction of Grenoble after 1998. This variable is used as an instrumental variable.
*Significant at 10%; ** significant at 5%; *** significant at 1%.

awards given to the workers through the judicial process: one dismissed person in four challenges her dismissal in front of the labor court. Since local conditions of judicial activity vary, we use this source of variation to assess the effect of dismissal costs on the labor market. We analyze judicial activity using an original data set of individual labor disputes brought to court over the years 1996 to 2003. First, we present a simple theoretical framework helping us to relate litigation costs, judicial outcomes, and firing costs. Indeed, the model shows that judicial outcomes are ambiguously related to dismissal costs. For instance, an increase in the firm litigation cost produces an increase in the firing cost and a decrease in the filing rate. By contrast, workers faced with a negative shock on litigation costs are more likely to sue the firm; a larger filing rate is now associated with smaller firing costs.

Moreover, judicial outcomes are endogenous: economic conditions have an impact on the quality of the cases. For an instrumental approach, litigation costs can be good instruments if their changes are not driven by local economic conditions. In this article, the instrumental variable is lawyer density, which is a proxy for judicial fees. Because lawyers tend to open their practice close to the university where they were, and because demographics led to a large increase in the number of lawyers during our period, changes in their numbers should be unrelated to the number of cases in each labor court except through the litigation costs. Using the lawyer instrument, we

show that judicial outcomes have a causal effect on job flows. Higher filing rates dampen employment fluctuations, yet with a larger effect in shrinking firms. This leads to a small positive effect on net employment growth. Yet this last result is less robust to different specifications.

These results can be interpreted through the eyes of our model: in the jurisdictions where the number of lawyers increases, legal fees are reduced and so are the litigation costs for the workers. They litigate more often, but "bad" cases end more often at the conciliation stage. As a result, the firing costs increase for the firms. Then our empirical analysis shows that facing these higher firing costs, firms decrease job flows but adjust more on the destruction than on the creation margin. Finally, a decrease in litigation costs for the workers seems to stimulate employment growth.

These results on employment fluctuations confirm previous studies that also use job flows (Autor et al. 2007; Kugler and Pica 2008). The novelty is this new source of variation of dismissal costs, which allows us to identify the effects without being dependent on new legislation. The novelty is also in the magnitude of the effects. It means that the differences in the judicial environment within a country in which the labor laws are the same can create large differences in the local labor market. Therefore, the enforcement of labor laws should be taken into account when we compare the impact of regulation across countries and populations. Yet we also show that interpreting judicial outcomes in terms of firing costs is not straightforward: in our analysis, a higher firing cost is associated with a higher conciliation rate and a lower trial rate. On the contrary, litigation costs have more direct interpretations and could be more often used to compare the level of EPL enforcement across countries.

Appendix

The employer dismisses the worker at the minimum cost, instead of paying the maximum severance payments if:

$$p_f\left\{p_c(c_c+l_c)+(1-p_c)\left[p_w\left(c_m+F\right)+\left(1-p_w\right)c_m+l_t\right]\right\}+\left(1-p_f\right)c_m<c_M$$

As for the worker, he or she chooses to challenge his or her dismissal ($p_f = 1$) if his or her expected gain at trial or at the conciliation stage is larger than the minimum severance payment:

$$p_w\left(c_m+F\right)+\left(1-p_w\right)c_m-k_t>c_m \text{ or } c_c-k_c>c_m$$

Thus the worker chooses to go to court if the gain at trial is large enough: $p_w\left(c_m+F\right)+\left(1-p_w\right)c_m-k_t>c_m$, that is $p_w>\overline{p_w}=\frac{k_t}{F}$. The worker would prefer the agreement ($p_c = 1$) to the trial when $p_w\left(c_m+F\right)+\left(1-p_w\right)c_m-k_t<c_c-k_c$, i.e.,

$$p_w < \overline{\overline{p_w}} = \frac{c_c - c_m + k_t - k_c}{F}$$

Yet the firm can refuse the agreement.

On the firm side, the firm dismisses the worker offering the minimum cost if:

$$p_w\left(c_m + F\right) + \left(1 - p_w\right)c_m + l_t < c_M$$

that is:

$$p_w < p_w^{**} = \frac{c_M - c_m - l_t}{F}$$

We assume that the compensatory award F is large enough that when the firm is certain to lose at trial, it is less costly to pay the maximum severance payment. That is:

$$c_M < c_m + F + l_t \text{ and thus } p_w^{**} < 1.$$

In addition, the firm accepts the conciliation only if it is less costly than going to trial, that is:

$$p_w\left(c_m + F\right) + \left(1 - p_w\right)c_m + l_t > c_c + l_c$$

which means:

$$p_w > p_w^{*} = \frac{c_c - c_m - l_t + l_c}{F}$$

In order for a conciliation to exist, suing must be a credible threat to the employer. Therefore, we impose that $p_w^{*} < \overline{p_w}$, that is $c_c - c_m + l_c < k_t + l_t$. In addition, there must be a probability range in which the worker is better off conciliating than going to trial. We must have $\overline{p_w} < \overline{\overline{p_w}}$, that is $c_m < c_c - k_c$.

Finally, for the trial stage to exist, the firm must be better off in some probability range going to trial rather than giving the compensatory award c_M that protects against any suing: $\overline{\overline{p_w}} < p_w^{**}$.

To summarize, we have five assumptions:

Assumptions

Condition (1): $k_t > c_c - c_m + l_c - l_t$: the cost of trial is sufficiently large $(p^{*}{}_w < \overline{p_w})$.

Condition (2): $c_c - k_c > c_m$: the gain for the worker at the conciliation stage is larger than the severance payment he or she receives in case of firing for a personal reason $(\overline{p_w} < \overline{\overline{p_w}})$.

Condition (3): $c_c + l_c < c_M$: the cost for the firm at the conciliation stage is smaller than the severance payment received by the worker in case of firing for an economic reason.

Conditions (1), (2), and (3) taken together allow for the possibility of a *conciliation* stage.

Condition (4): The compensatory award F is large enough that when the firm is certain to lose at trial, it is less costly to pay the maximum severance payment. That is: $c_M < c_m + F + l_t$. It implies $p_w^{**} < 1$ and excludes an equilibrium in which the law has no deterrent effect, every worker being fired for a personal reason.

Condition (5): $c_c - k_c + k_t + l_t < c_M$: there is a probability range for a trial to exist. The firm is better off at trial than paying c_M.

Result 1

Under these assumptions we end up with four regimes:

$$p_f = 0 \text{ and } p_c = 0 \text{ if } p_w < \overline{p_w}$$

$$p_f = 1 \text{ and } p_c = 1 \text{ if } \overline{p}_w < p_w < \overline{\overline{p}}_w \text{ (with } p_w^* < \overline{p_w})$$

$$p_f = 1 \text{ and } p_c = 0 \text{ if } \overline{\overline{p_w}} < p_w < p_w^{**}$$

$$p_f = 0 \text{ and } p_c = 0 \text{ and the firm pays } c_M \text{ if } p_w > p_w^{**}$$

For a given distribution Φ of case qualities p_w, the total firing cost for a firm is given by the area under the line in Figure 1:

$$Cost = \int_0^{\overline{p_w}} c_m d\Phi(p_w) + \int_{\overline{p_w}}^{\overline{\overline{p_w}}} (c_c + l_c) d\Phi(p_w) + \int_{\overline{\overline{p_w}}}^{p_w^{**}} \left(p_w(c_m + F) + (1 - p_w)c_m + l_t\right) d\Phi(p_w)$$
$$+ \int_{p_w^{**}}^{1} c_M d\Phi(p_w)$$

The number of filed cases is the number of cases with greater quality than $\overline{p_w}$ but lesser quality than p_w^{**}:

$$Filed = \int_{\overline{p_w}}^{\overline{\overline{p_w}}} d\Phi(p_w) + \int_{\overline{\overline{p_w}}}^{p_w^{**}} d\Phi(p_w)$$

The number of trials is the number of filed cases with greater quality than $\overline{\overline{p_w}}$:

$$Trials = \int_{\overline{\overline{p_w}}}^{p_w^{**}} d\Phi(p_w)$$

When the litigation cost for the firm l_t increases, the only threshold that is

affected is p_w^{**}, which decreases ($\frac{\partial p_w^{**}}{\partial l_t} = -\frac{1}{F}$). Thus the numbers of filed cases and trials decrease. On the contrary, the total firing cost increases (see also Figure 2):

$$\frac{\partial Filed}{\partial l_t} = \frac{\partial Trials}{\partial l_t} = \frac{\partial}{\partial l_t} \int_{\overline{\overline{p_w}}}^{p_w^{**}} d\Phi(p_w) = -\frac{1}{F}\varphi(p_w^{**}) < 0$$

and

$$\frac{\partial Cost}{\partial l_t} = \frac{\partial}{\partial l_t} \int_{\overline{\overline{p_w}}}^{p_w^{**}} \left(p_w(c_m + F) + (1 - p_w)c_m + l_t\right) d\Phi(p_w) + \frac{\partial}{\partial l_t} \int_{p_w^{**}}^{1} c_M \, d\Phi(p_w)$$

$$= \int_{\overline{\overline{p_w}}}^{p_w^{**}} \left(p_w(c_m + F) + (1 - p_w)c_m + l_t\right) \varphi^2(p_w) d\Phi(p_w) - \frac{1}{F}\left(p_w^{**}(c_m + F) + (1 - p_w^{**})c_m + l_t\right)\varphi(p_w^{**})$$

$$-(-\frac{1}{F})c_M \varphi(p_w^{**})$$

$$= \int_{\overline{\overline{p_w}}}^{p_w^{**}} \left(p_w(c_m + F) + (1 - p_w)c_m + l_t\right) \varphi^2(p_w) d\Phi(p_w) > 0$$

Thus we have:

Result 2

If the litigation cost for the firm l_t increases, the total firing cost increases, assuming that the distribution of the case quality is given. The numbers of filed cases and trials decrease, as does the quality of the filed cases.

When the litigation cost for the worker k_t increases, two thresholds are affected: $\overline{p_w}$ and $\overline{\overline{p_w}}$. They both increase ($\frac{\partial \overline{p_w}}{\partial k_t} = \frac{\partial \overline{\overline{p_w}}}{\partial k_t} = \frac{1}{F}$). Thus the numbers of filed cases and of trials decrease:

$$\frac{\partial Trials}{\partial k_t} = -\frac{1}{F}\varphi(\overline{\overline{p_w}}) < 0$$

$$\frac{\partial Filed}{\partial k_t} = -\frac{1}{F}\varphi(\overline{p_w}) < 0$$

and the total cost decreases as well (see also Figure 3):

$$\frac{\partial Cost}{\partial k_t} = \frac{\partial}{\partial k_t}\int_0^{\overline{p_w}} c_m d\Phi(p_w) + \frac{\partial}{\partial k_t}\int_{\overline{p_w}}^{\overline{\overline{p_w}}} (c_c + l_c) d\Phi(p_w) + \frac{\partial}{\partial k_t}\int_{\overline{\overline{p_w}}}^{p_w^*} \left(p_w(c_m + F) + (1 - p_w)c_m + l_t\right) d\Phi(p_w)$$
$$= \frac{1}{F} c_m \varphi(\overline{p_w}) + \frac{1}{F}\left(c_c + l_c\right)\varphi(\overline{\overline{p_w}}) - \frac{1}{F}\left(c_c + l_c\right)\varphi(\overline{p_w}) - \frac{1}{F}\left(\overline{\overline{p_w}}(c_m + F) + (1 - \overline{\overline{p_w}})c_m + l_t\right)\varphi(\overline{\overline{p_w}})$$
$$= \frac{1}{F}\left(c_m - c_c + l_c\right)\varphi(\overline{p_w}) + \frac{1}{F}(l_c - k_t + k_c - l_t)$$

Under conditions (1) and (2),

$$\frac{\partial Cost}{\partial k_t} < 0$$

Result 3

If the litigation cost for the worker k_t increases, the total firing cost for the firm decreases. The numbers of filed cases and trials decrease.

Table A.1. Judicial Indicators and the Business Cycle

	Filing rate	*Conciliation rate*	*Trial rate*	*Worker winning rate*
Unemployment rate	0.897***	1.177***	−1.435***	−1.353***
	(0.108)	(0.118)	(0.141)	(0.135)
R-squared	0.04	0.06	0.09	0.08

Notes: Robust standard errors are between parentheses. Observations are for 264 jurisdictions and for the years 1996–2003 (2,112 observations). Each regression includes jurisdiction and year fixed effects. 1999 labor force of the jurisdictions is used as weights. Clusters: jurisdiction level.
*Significant at 10%; ** significant at 5%; *** significant at 1%.

Table A.2. Impact of Past Labor Flows on Lawyer Densities

	Lawyers
Job destructions (−1)	−0.0004
	(0.0003)
Job destructions (−2)	−0.0002
	(0.0002)
R-squared	0.11
Job creations (−1)	0.0001
	(0.0004)
Job creations (−2)	0.0006
	(0.0006)
R-squared	0.11
Employment growth (−1)	0.0003*
	(0.0002)
Employment growth (−2)	0.0005
	(0.0003)
R-squared	0.11
Observations	2,112

Notes: Robust standard errors are between parentheses. Each regression includes jurisdiction and year fixed effects. 1999 labor force of the jurisdictions is used as weights. Clusters: jurisdiction level.
*Significant at 10%; ** significant at 5%; *** significant at 1%.

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