"Labor Disputes and Job Flows"

Henri Fraisse, Banque de France, and IZA
Francis Kramarz, CREST(ENSAE), CEPR, and IZA
Corinne Prost, CREST-INSEE[7]

Abstract

This article uses variations in local conditions of the activity of the labor courts to assess the effect of dismissal costs on the labor market. Judicial activity is analyzed using a data set of individual labor disputes brought to French courts over the years 1996 to 2003. First, the authors present a simple theoretical framework helping us understand the links between litigation costs, judicial outcomes and firing costs. Second, the authors 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; this last result being more sensitive to the adopted specification.

[7] Corresponding author: corinne.prost@insee.fr. +33 (0)1.41.17.60.67. Insee-15 bd Gabriel Péri, 92240 Malakoff, France. We are grateful to John Abowd, David Autor, Jed DeVaro, Marc Ferracci, Joop Hartog, Larry Kahn, and Iona Marinescu for useful comments. We also thank seminar participants at the Banque de France, Crest, MIT, New York University, University of Chicago, Yale University as well as participants at the EDHEC-GAIN-ADRES conference, IZA summer school, EALE conference, CPB workshop, and ESSLE conference.

Following the seminal paper by Lazear (1990), the effects of employment protection legislation (EPL, hereafter) on labor markets have been extensively examined through cross-country analyses, using indicators assumed to capture the national strictness of EPL (see Freeman, 2007, for a critical review). A recent 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 category within a whole country or -- in the case of the US -- the impact of the differential timing in the introduction of a new EPL across different states. Autor, Donohue, and Schwab (2006) and Autor, Kerr, Kugler (2007) take advantage of the between-state variation in the timing of the adoption of wrongful discharge laws in the US. Kugler (1999) exploits a temporal change in the legislation in Colombia, which reduced severance payments, together with the variability in coverage between formal and informal sector workers. Other papers use legislations which entail smaller firing costs for small firms (Kugler and Pica, 2008, Bauer, Bender and Bonin, 2007, Martins, 2009). A last strand of papers rely on variations induced by legal probation periods (Marinescu, 2009, Ichino and Riphahn, 2005).

In this paper, we propose another source of variation of dismissal costs. Even when labor laws do not change, the functioning of the labor courts tend to vary over time and space. As pointed out by *The OECD 2004 Employment Outlook*, even if an employer may be penalized in case of non-respect of 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". 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 find that insider trading laws decrease the cost of equity only when a case has been prosecuted).

In this paper, we analyze the judicial process and its impact on the labor market. The French EPL system produces every year a large amount of legal procedures related to individual labor disputes (roughly 160,000 new cases every year, as we will see). About 1 in 4 dismissed workers indeed challenges his or her dismissal in front of a labor court.[8] Almost half of these cases are won by the workers, entailing damages paid by the firms. Besides direct costs, these procedures can last for several months, with uncertain issues, which are indirect costs for firms and workers. It is these legal procedures that we analyze in this paper.

Yet using labour 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, the fraction of trials won by the workers - give an indirect and partial measure of dismissal costs faced by firms.[9] Besides, empirically, 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, focus on

[8] By comparison, an approximate number of 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 US before intervention of the courts, but their efforts are not recorded in any registry (a point made by John Abowd).

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

this institutional endogeneity of EPL enforcement. Studying the case of an Italian bank over more than 20 years, they show 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 - finds that a higher unemployment rate leads to more decisions against the workers, in particular when already re-employed at the moment 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 stylised 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 due 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, leading to more trials, thus paying more on the extensive margin (more cases) but saving on the intensive margins (less expensive cases). These composition effects do not only apply to labor courts but also to divorce or more generally to any legislation that alters the decisions of workers, couples, firms when they contract, sue, or indeed go to court.[10] Following the theoretical framework, we use litigation costs to instrument the indicators of judicial outcomes. More precisely, we use the lawyer density as a proxy for legal fees.

On the *empirical* side, our contribution is threefold. First, we consider measures of judicial outcomes directly coming from legislation enforcement with variation across space and time.[11] In France, workers can contest the conditions of a firing by filing a case to one of the 264 local labor courts. We use information collected by the French Ministry of Justice on all cases that were filed over the 1996-2003 period to compute, for each geographical jurisdiction and each year, various indicators characterizing the enforcement of the labor laws: the percentage of dismissed workers who litigate in employment tribunals, the fraction of cases leading to a conciliation between parties, 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, as well as local measures of job flows à la Davis and Haltiwanger (1992).

Second, as we work at the level of France, a country in which many institutions are centralized and do not vary across the French territory (minimum wage, unemployment benefits, 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 paper 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. Lawyer localisation is

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

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

shown to be disconnected from local business conditions. Then, after having shown through our stylised model the links between judicial outcomes and firing costs, we measure the effect of judicial indicators on job flows, measured at the intensive as well as the extensive margins. Several papers assessing EPL also use job flows (see for instance Autor et al., 2007 and Kugler and Pica, 2008). Unfortunately, due to the lack of worker flows data for the very small firms where a large fraction of our labor court cases take place, we cannot combine the joint analysis of job and worker flows as is done in Kugler and Pica (2008).

As in all of the empirical papers we are aware of, our paper focuses on the impact of labor regulations on labor market characteristics and leave aside the welfare gains from job stability which must be taken into account for policy recommendations.[12] However, and in contrast with the existing empirical literature, our labor court outcomes capture some dimensions of the quality of labor relations which according to Blanchard and Philippon (2004) or Algan and Cahuc (2009) are related to the evolution of labor market conditions.

Labor Courts in France: the Institutional Setting

French Firing Laws

Under the current French law, dismissals are classified in two types: dismissals for a personal motive and dismissals for economic reasons. Dismissals for economic reasons are redundancies due to a slowdown in the business activity and are supposed to be independent of the "quality" of the employee. Dismissals for a personal motive occur when the firm's decision to fire a worker is triggered by a grave misconduct of the worker or an insufficient level of skills. 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, etc. The process is also costly since the firms have to take measures, such as training courses, to help the employees to find another job. 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.

It is important to note that economic dismissals are rarely challenged. In our data, indeed, 97.5% cases come from dismissals for personal motives rather than for economic reasons.[13]

When fired, a French worker may sue the firm.[14] Since a bill passed in 1973, every individual dismissal must be justified by a "real and serious cause" and the firm has the burden of proof. Without delving deep into 30 years of jurisprudence that have made this concept simultaneously blurred and precise, "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 ten minutes late does not mean being seventy minutes late; a lack of performance or a lack of trust is not considered "real" if it is not objectively measured. The

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

[13] 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 other courts than those treating personal dismissals. Nevertheless, the number of cases is small in those courts as well.

[14] 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.

cause is considered as "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 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 amonts to 1/10 + 1/15 of monthly salary per year of service. If judges rule the dismissal as unfair, the compensatory award depends on judges' estimates of the magnitude of the damages incurred by the worker. However, in this case, the compensatory award must be at least 6 months pay if the employee has worked more than 2 years in the firm. Unfortunately, in France, there is no data available on the level of these awards. Serverin (2002), based on a survey of 7,962 cases collected in 1996, estimates the average award asked by the worker to equal the annual (gross) minimum wage.

French Labor Courts

The French labor justice is mainly dispensed by the "Prud'hommes" which is the relevant jurisdiction to every labor dispute arising at the individual level in France. During our period of analysis, 1996-2003, 264 Prud'hommes jurisdictions were spread all over metropolitan France, a tribunal being at most within a radius of 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 judges representing employees in equal number. These judges are elected every five years within lists established by worker 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 where plaintiffs and defenders explain their grievance and judges try to push for an agreement.[15] If they do not, the case is judged. If, in the end, an equal number of judges decide in favor of a worker and against him or her, there is a tie ("solution de départage"). In this case, a single professional judge decides the outcome of the trial.[16]

The plaintiff or the defender 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, 30% confirmed it "partially".[17]

There are unfortunately no data on the litigation costs. The Prud'hommes institution is seen as a public good thus filing a case is cheap. The costs are mainly those induced by the

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

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

[17] 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.

representation. Workers can obtain legal help through other means than hiring a lawyer: a union member, a workmate or an administrative officer can help the worker with his or her case. However it is worth noting that, according to our data, almost half of the workers are represented by a lawyer. This contrasts with other countries for which this information is available (for instance 18% in the UK, 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.[18]

To illustrate how firing costs are related to judicial outcomes, we depart from the traditional model of litigation proposed by Priest and Klein (1984) or Bebchuk (1984) or more recently Card and McCall (2009) to run a cost-benefit analysis similar to the one proposed by Flanagan (1989) for disputes related to the compliance to the National Labor Relations Act in the US. 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 come back later on this topic and discuss how our results are affected by asymmetric information.

In our analysis, the employer can deliberately choose to pay a minimal firing cost with the risk to be sued by the worker; or to pay a larger amount, which corresponds to the payment a plaintiff would accept in order to give up any further possibility of lawsuit. Important to note here that this last sum is not negotiated between the firm and the worker, but is directly coming 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 a personal motive, paying a small severance payment, or to dismiss the worker for an economic motive (redundancy) with larger severance payments.[19] 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 motive rather than a redundancy.

In the case of a dismissal for personal motive, the firm incurs a minimum severance payment (c_m) if the dismissal remains unchallenged by the worker. This payment c_m 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

[18] 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, due to the cost of the trial, which is a cost on labour which cannot be undone by side negotiations).

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

=1 if he does, p_c =0 otherwise). The firm also knows 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 jurisprudence, always lower than c_M. Note that in order to simply introduce the co-existence 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 the trial.

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.[20] For instance, union or personnel delegates or pregnant women are very well protected by the law, and the judges are very strict against dismissals of such individuals. Several past statements of judgments also show that judges demand more stringent evidence when a firm has had large positive profits in the years preceding the trial.[21]

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" where a settlement amount can be found (see Bebchuk, 1984). When the expectations are not in the contract zone, the trial takes place; else 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 the expectations to narrow. 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 that are always present in the larger firms. Hence, they should escape trials and easily agree on separation payments, as is observed. In small firms, conflicts become often personal and difficult to solve without the help of a neutral third party, a role apparently played by the Prud'hommes.

Now, let us go back to our analytical framework. The parameters p_f and p_c, telling whether the case if 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 winning 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 at the trial stage.

[20] As mentioned above, this assumption is discussed below.

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

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

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

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:

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

Result 1:

Under various technical assumptions (presented in the model 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^{**}: $\overline{p_w}=\frac{k_t}{F}$, $\overline{\overline{p_w}}=\frac{c_c-c_m+k_t-k_c}{F}$, 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 accepts 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 of the case. Proofs are given in the model 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 so 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 effets of changes in the litigation costs. Let 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:

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

where L is the number of fired workers, G 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 which changes: it decreases. The expected firm's 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 dash 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 well as 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 induces a decreased probability for the workers to file a case (through a higher $\overline{p_w}$) as well as more workers that prefer to conciliate (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.

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. Besides, changes in the litigation costs have an effect on judicial outcomes, which is important to justify our instrumental strategy.Yet the link between firing cost and judicial outcomes is ambiguous; the model will be useful to interpret 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 at the level of 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 millions individual cases for 8 years (around 160 000 cases each year).[22]

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 9 months.[23] 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 less than 10 workers). The size of the firm has to be known by labor court judges because labor

[22] We will not consider the 2% of cases involving employers as plaintiffs.
[23] 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.

laws differ for small firms; more specifically, they are less stringent and try to ease the financial costs of firing that could hurt them irreversibly. Small firms are overrepresented with 56% of the filed cases whereas they comprise 25% of the labor force.[24]

The judicial motives for suing are multiple. The nullification of a dismissal is asked in the majority of cases (58%). 21% of plaintiffs ask for some compensation that was not paid by their former employer whereas 9% of plaintiffs do not agree with the level 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 the nullification of the dismissal is asked, in the very vast majority of the cases won by the workers, they are not reinstated but receive a compensatory award. Thus, in this paper, 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 his or her case. The case can also be crossed out. Finally, a case can either be conciliated 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.[25] The three other indicators describe the main outcomes of the cases, which are: 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, number of cases conciliated or having led to an agreement over the number of cases; the trial rate, number of cases having reached trial over the number of cases;[26] the worker winning rate, number of cases having led to a victory for the worker over the number of cases.

During our period, 1996 to 2003, no change 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 UK 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 over four ends at the labor court.

Despite the conciliation step which is mandatory, and promotes a quick and costless resolution of the cases, about 60% of cases end by 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

[24] 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). 56%, the average on our period, might be a lower bound. Because of these changes in the quality of the variable, we did not try to analyse the effects of judicial activity for small and large firms separately.

[25] 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 (ANPE at this time) in each city, distinguishing the reasons for being unemployed (dismissal, entry into the labor force, end of temporary contract…). As for job flows (see below), we aggregate these data at the jurisdiction level.

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

agreement notified to the court, or to a withdrawal on the worker's side. 19% 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 understanding two main sources of variability: business cycle and litigation costs. We will discuss below the links between the business cycle and the judicial activity, which are a source of endogeneity. Then we will explain that institutional variability in the number of lawyers entail 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 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 SIRENE files, maintained at the French statistical institute (INSEE).[27] 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 equals employment gains summed over all expanding or new business units. Conversely, job destructions equals 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 $NEG_{jt} = \sum_{e \in E_{jt} / x_{et} < x_{et-1}} \frac{|x_{et} - x_{et-1}|}{(X_{jt-1} + X_{jt})/2}$.

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.

[27] Unfortunately, these data do no allow to distinguish between open-ended contracts and short-term contracts.

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

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, at the local level of the city, the size of the temporary help service industry. Hence, we cannot perform an analysis as done in Autor (2003). However, in contrast with other European countries (such as Spain), the fraction of temporary workers in French total private employment is low (about 2.5% in 2009).

Finally, we cannot analyse worker flows since such measures are not available for establishments with less than 10 workers whereas those establishments are overrepresented among the establishments sued by the workers. In addition, because France has a dual labor market with both short-term and long-term contracts (see Abowd et al. 1999), it is essential to also measure the contractual arrangements for an analysis of worker flows. Indeed, other papers show that in a dual labor market as most of European countries have, an increase in dismissal costs may have ambiguous impact on worker flows (see for instance Addison and Teixeira, 2003, for a survey of the literature, or 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 open-ended contracts with short-term contracts (when hiring new employees).[28] 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.[29] Yet, by nature, short-term contracts induce larger turnovers than permanent contracts.[30] Thus an increase in firing costs of permanent contracts would imply less flows from permanent workers but higher flows of 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 case would increase (except if the cases are too good, which would induce

[28] Usually, in European countries, dismissal costs for short-term contracts are very large so that dismissals of workers in short-term contracts are rare.
[29] In 2003, 12% of employees are employed with a short-term contract in France.
[30] Abowd, Corbel, Kramarz (1999) illustrate this point by showing that dismissals are a small fraction of separations in France, most of separations are due to quits and ends of short-term contracts.

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.[31] An economic downturn pushes $\overline{p_w}$, $\overline{\overline{p_w}}$, and p_w^{**} downwards 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 which 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" hereafter). In France, each lawyer has to get 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 Prud'homme to the closest bar using shortest route distance and compute the number of lawyers available to employees depending on one single Prud'homme. Using the 1999 Census, the jurisdiction average is 24 lawyers per 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 type 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 the judicial activity and the case outcomes. This result of our model is true 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

[31] 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, or Devereux and Hart, 2011). The evidence about individual disputes is less extensive (see however Siegelman and Donohue, 1995).

density variable is negative and strongly significant.[32] Thus changes in lawyer density within a Prud'hommes 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 are only a small amount of the total number of civil cases (11% at the national level)[33]; 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 the local bar which jurisdiction the Prud'hommes belongs to. This requirement and the building of a reputation and a clientele induce 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 (both locations often being the same ones). First, a lawyer typically *enrolled the bar the city where he or she studied:* legal studies are vocational and include a period of apprenticeship, usually in a closeby law firm.[34]

A second factor explaining the location preferences is the region of birth. This is not specific to lawyers[35]; nevertheless lawyers can settle more easily close to their region of birth than many other similar occupations with labor markets less dispersed geographically over French territory. To illustrate this, we used the Labor Force Survey to compute descriptive statistics on the percentage of workers who work in their birth "département".[36] We restrict the comparison to the persons born in metropolitan France and having a university degree. In 2004, this percentage is equal to 45% for the lawyers to be compared to only 14% for the engineers. This figure is particularly high bearing 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 the effects will be estimated thanks to changes in lawyer density *within* a Prud'hommes. We take benefit of 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 largly explained by a global increase in France of the students attending the university during the 90s, in particular of female students. As we said, a large part 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 twelve 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 mostly driven by exogenous supply shocks

[32] Results are available from the authors.
[33] See available on line Info Stat justice (2005) « Une évaluation de l'activité des juridictions en 2004 » n° 80.
[34] 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 is crucial.
[35] See for instance a lot of papers on teachers finding that the distance between teachers' 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.
[36] A French "département" is equivalent to an American county.

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, lagged job flows are found to have no predicting power on lawyer density when including jurisdiction fixed effects and year dummies (see Appendix Table A.2).

First stage and reduced-form regression

Table 2 presents the instrumental regressions (first stage) for each of our indicators of judicial activity on the 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 its trial-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).

We examine now whether these estimates can be better understood in the 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.[37]

Under such assumptions, the model shows that $\overline{\overline{p_w}}$ decreases more than $\overline{\overline{\overline{p_w}}}$: more workers file a case since it is less costly, and end more often the case 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.

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 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:

[37] 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 regressing 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.

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

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 impact simultaneously 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 or Blanchard and Katz, 1992) using the following relation:

$$U_{p,t} = \delta_p + \gamma_t + \mu_p U_t^{aggregate} + \eta_{p,t} \quad (3)$$

Then, we use the *predicted* value $\hat{U}_{p,t}$ of $U_{p,t}$ by (3) to compute our exogenous measure of cycle *BC* as $\frac{(\overline{U}_p - \hat{U}_{p,t})}{\overline{U}_p}$ where $\overline{U}_p$ 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 just 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 aggregate effect. The effect on job destructions partly comes from the extensive margin, the coefficient being negative albeit marginally significant. Besides, a larger

conciliation rate dampens job destructions when a 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 case, presumably because it is less costly for them to challenge their dismissals. Hence, more workers go to the 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 that 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 in the firing costs 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 7 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 4 to 7 percentage points in jurisdictions where the filing rate is one standard-deviation larger.

Our results are difficult to compare with those contained in previous papers since most of them estimate EPL effects through changes in the legislation. Our results of larger firing costs entailing less employment fluctuations is coherent with Autor et al. (2007) and Kugler and Pica (2008). Autor et al. (2007) also find a positive effect on employment growth. In their paper, they appear skeptical facing 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 theory which is ambiguous on employment effects; yet this is different from most empirical studies where 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 of the differences with papers estimating more structural EPL effects (like 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 is 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 more). Firms therefore have a relatively clear view of the process as well as of the probability of winning their case. All the more so that (roughly) one fourth of dismissals end in court; most employers have experienced at least one and often multiple trials.

Abowd et al. (1999) show that French establishments, with fifty or more employees, use entries more intensively than exits as the main tool for adjusting employment. More precisely,

French establishments always hire, at an increasing rate with employment growth (see their Figure 1). 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 the worker flows to adjust the employment is similar in small establishments than in establisments with fifty or more employees. Under these assumptions, since larger firing costs decrease employment growth, this decrease should come from less 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 ran 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 jurisdiction in terms of 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, the judge Blohorn-Brenneur was appointed at the Circuit court of appeals of 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 a) sending out an information letter and a questionnaire to the parties in order to increase parties' awareness of mediation, b) offering mediation and conflict management training to the judges of Grenoble, and c) organizing specific hearings where mediation services were proposed to the parties.[38] We will see that this experiment led to a strong increase in the conciliation rate from 1998 onwards at the Grenoble jurisdiction. In order to assess its impact on job flows, we run a simple difference in difference regression of the form:

$$Flows_{p,t} = \alpha_1 BC_{p,t} + \alpha_2 BC_{p,t-1} + \beta \times Grenoble \times Post1998 + \delta_p + \gamma_t + \varepsilon_{p,t} \qquad (4)$$

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 (4) 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

[38] See Blohorn-Brenneur (2010) in « Refondation du droit social, concilier protection des travailleurs et efficacité économique », Jean Barthélémy et Gilbert Cette, Rapport du Conseil Economique et Social. The summary in English of the whole report is to be found page 191-197. The Judge Blohorn-Brenneur founded with others the European Association of Judges for Mediation in 2003.

(i.e. the estimates of β associated with equation (4) where the conciliation rate is the endogenous variable).

First, focusing on this last column, and as claimed above, the Grenoble experiment increased substantially the conciliation rate by around 8 percentage points, i.e. about one standard deviation of the conciliation rate measured across years and jurisdictions. The difference is similar when Grenoble is compared to contiguous jurisdictions and jurisdictions of similar size. Turning to the impact of the experiment on job flows, as already obtained in our instrumental approach, a higher conciliation rate dampens job destructions. Although obtained on 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 awards given to the workers through the judicial process, knowing that one dismissed person over four challenges her dismissal in front of the labor court. Since local conditions of the judicial activity vary, we use this source of variation to assess the effect of dismissal costs on the labor market. Judicial activity is analyzed 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 induces 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 the lawyer density which is a proxy for judicial fees. Because lawyers tend to open their practice close to the university they were enrolled at, 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. It 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, yet with “bad” cases ending 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 the job flows, yet adjusting more on the destruction than on the creation margin. Finally, a decrease in the litigation costs for the workers seems to stimulate employment growth.

These results on employment fluctuations confirm previous papers using job flows as well (Autor et al., 2007, and Kugler and Pica, 2008). The novelty is this new source of variation of dismissal costs, which allows identifying 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, with the same labor laws, can induce large differences on the local labor market. Therefore, the enforcement of labor laws should be taken into account when comparing 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 the EPL enforcement across countries.

References

Abowd, John, Corbel, Patrick, and Kramarz, Francis. 1999. The entry and exit of workers and the growth of employment. *Review of Economics and Statistics*, 81 (2): 170-187.

Addison, John T., and Teixeira, Paulino. 2003. The economics of employment protection. *Journal of Labour Research*, 24: 85-129.

Algan, Yann, and Cahuc, Pierre. 2009. Civic virtue and labor market institutions. *American Economic Journal: Macroeconomics*, 1 (1): 111–45.

Almeida, Rita, and Carneiro, Pedro. 2009. Enforcement of labor regulation and firm size. *Journal of Comparative Economics*, 37 (1): 28-46.

Autor, David H. 2003. Outsourcing at will: the contribution of unjust dismissal doctrine to the growth of employment outsourcing. *Journal of Labor Economics,* 21 (1): 1 – 42.

Autor, David H., Donohue, John J., and Schwab, Stewart J. 2006. The costs of wrongful-discharge laws. *The Review of Economics and Statistics*, 88 (2): 211-231.

Autor, David H., Kerr, William R., and Kugler, Adriana. 2007. Does employment protection reduce productivity? Evidence from US states. *The Economic Journal*, 117: 189-217.

Bartik, Timothy J. 1991. *Who Benefits from State and Local Economic Development Policies?* Kalamazoo, Mich.: W. E. Upjohn Institute for Employment Research.

Bauer, Thomas K., Bender, Stefan, and Bonin, Holger. 2007. Dismissal protection and worker flows in small establishments. *Economica*, 74 (296): 804-821.

Bebchuk, Lucian A. 1984. Litigation and settlement under imperfect information. *The RAND Journal of Economics*, 15 (3): 404-415.

Bentolila, Samuel, and Bertola, Guiseppe. 1990. Firing costs and labor demand: how bad is eurosclerosis? *The Review of Economic Studies*, 57 (3): 381-402.

Bertola, Guiseppe. 2004. .A pure theory of job security and labour income risk. *Review of Economic Studies*, 71 (1): 43-61.

Bhattacharya, Utpal, and Daouk, Hazem. 2002. The world price of insider trading. *Journal of Finance*, 57: 75-108.

Blanchard, Olivier J., and Katz, Lawrence F. 1992. Regional evolutions. *Brookings Papers on Economic Activity*, 1: 1-75.

Blanchard, Olivier J., and Philippon, Thomas. 2004. The quality of labor relations and unemployment. NBER Working Paper 10590.

Blohorn-Brenneur, Béatrice. 2010. La médiation prud'homale. in « Refondation du droit social, concilier protection des travailleurs et efficacité économique », Jean Barthélémy et Gilbert Cette, Rapport du Conseil Economique et Social, 143-151.

Boeri, Tito. 1999. Enforcement of employment security regulations, on-the-job search and unemployment duration. *European Economic Review*, 43: 65-89.

Burgess, S., Popper, C. and D. Wilson. 2001. Explaining the growth in the number of applications to employment tribunals 1972-1997. Department of Trade and Industry.

Card, David, and McCall, Brian P. 2009. When to start a fight and when to fight back: liability disputes in the workers' compensation system. *Journal of Labor Economics*, 27 (2): 149-178.

Chemin, Matthieu, and Wasmer, Etienne. 2009. The employment effects of 35-hour workweek regulation in France: using Alsace-Moselle local laws to build a diff-in-diff. *Journal of Labor Economics,* 27 (4): 487-524.

Davis, Steven, and Haltiwanger, John. C. 1992. Gross job creation, gross job destruction, and employment reallocation. *Quarterly Journal of Economics*, 107 (3): 819-864.

Dertouzos, James N. 1988. The End of Employment-at-Will: Legal and Economic Costs. Report P-7441. Santa Monica, Calif.: Rand Corp.

Devereux, Paul, and Hart, Robert. 2011. A good time to stay out? Strikes and the business cycle. *British Journal of Industrial Relations*, 49: 70-92.

Duflo, Esther. 2001. Schooling and labor market consequences of school construction in Indonesia: evidence from an unusual policy experiment. *The American Economic Review*, 91 (4): 795-813.

Flanagan, Robert J. 1989. Compliance and enforcement decision under the national labor relations act. *Journal of Labor Economics*, 7 (3): 257-280.

Fraisse, Henri. 2010. Labour disputes and the game of legal representation. Cesifo Working Paper 3084.

Freeman, Richard B. 2007. Labor Market Institutions Around the World. Chapter 34 in The Handbook of Industrial and Employment Relations, Nick Bacon, Paul Blyton, Jack Fiorito and Edmund Heery (eds). London: Sage.

Garibaldi, Pietro, and Violante, Giovanni L.. 2005. The employment effects of severance payments with wage rigidities. *The Economic Journal*, 115 (506): 799-832.

Harrison, Alan, and Stewart, Mark. 1994. Is strike behavior cyclical? *Journal of Labor Economics*, 12 (4): 524-553.

Ichino, Andrea, Polo, Michele, and Rettore, Enrico. 2003. Are judges biased by labor market conditions? *European Economic Review*, 47 (5): 913-944.

Ichino, Andrea, and Riphahn, Regina T.. 2005. The effect of employment protection on worker effort: a comparison of absenteeism during and after probation. *Journal of the European Economic Association,* 3 (1): 120-143.

Kramarz, Francis, and Michaud, Marie-Laure. 2010. The shape of hiring and separation costs in France. Labour Economics. 17 (1): 27-37.

Kugler, Adriana. 1999. The impact of firing costs on turnover and unemployment: evidence from the Colombian labour market reform. *International Tax and Public Finance Journal*, 6 (3): 389-410.

Kugler, Adriana, and Pica, Giovanni. 2008. Effects of employment protection on job and worker flows: evidence from the 1990 Italian reform. *Labour Economics*, 15 (1): 78-95.

Lazear, Edward P. 1990. Job security provision and employment. *Quarterly Journal of Economics*, 105 (3): 699-726.

Marinescu, Ioana. 2009. Job security legislation and job duration? Evidence from the UK. *Journal of Labor Economics*, 27 (3): 475-486.

Marinescu, Ioana. 2011. Are judges sensitive to economic conditions? Evidence from UK employment tribunals. *Industrial and Labor Relations Review*, 64 (4).

Martins, Pedro S. 2009. Dismissals for cause: the difference that just eight paragraphs can make. *Journal of Labor Economics*, 27 (2): 257-280.

Munoz-Perez, Brigitte, and Serverin, Evelyne. 2006. Le sort des demandes prud'homales en 2004. *Bulletin d'information statistique,* Ministère de la Justice, 87.

OECD. 2004. *Employment Outlook,* OECD Publication, Paris.

Oyer, Paul, and Schaefer, Scott. 2000. Layoffs and litigation. *The RAND Journal of Economics*, 31 (2): 345-358.

Priest, George, and Klein, Benjamin. 1984. The selection of disputes for litigation. *Journal of Legal Studies*, 13, 1-55.

Serverin, Evelyne. 2002. Les litiges du travail au temps du jugement prud'homal. *Revue nationale des Barreaux,* 66/67, 67-167.

Siegelman, Peter, and Donohue, John J. III. 1995. The selection of employment discrimination disputes for litigation: using business cycle effects to test the Priest-Klein hypothesis. *Journal of Legal Studies*, 24 (2): 427-62.

Spier, Kathryn, 2007. Litigation. in *The Handbook of Law and Economics* (A. M. Polinsky and S. Shavell, eds., North Holland).

Stevenson, Betsey, 2007. The impact of divorce laws on investment in marriage specific capital. *Journal of Labor Economics,* 25 (1): 75-94.

Venn, Danielle. 2009. Legislation, Collective Bargaining and Enforcement: Updating the OECD Employment Protection Indicators., *OECD Social, Employment and Migration Working Papers*, 89.

Model Appendix:

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

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

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:

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

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

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

that is:

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

We assume that the compensatory award F is large enough so that when the firm is certain to lose at trial, it is less costly to pay the maximum severance payment. That is: $c_M < c_m + F + l_t$ and thus $p_w^{**} < 1$.

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

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

which means:

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

In order 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 where the worker is better off to conciliate 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 to go 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 motive ($\overline{p_w} < \overline{\overline{p_w}}$).

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 motive.

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

Condition (4): The compensatory award F is large enough so 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 motive.

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:

- $p_f = 0$ and $p_c = 0$ if $p_w < \overline{p_w}$
- $p_f = 1$ and $p_c = 1$ if $\overline{p}_w < p_w < \overline{\overline{p}}_w$ (with $p^*_w < \overline{p_w}$)
- $p_f = 1$ and $p_c = 0$ if $\overline{\overline{p_w}} < p_w < p^{**}_w$
- the firm pays c_M 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 which is impacted 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):

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

and

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

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

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

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

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 well as the quality of the filed cases.

When the litigation cost for the worker k_t increases, two thresholds are impacted: $\overline{p_w}$ 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:

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

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

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

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

$$= \frac{1}{F}c_m\varphi(\overline{p_w}) + \frac{1}{F}(c_c + l_c)\varphi(\overline{\overline{p_w}}) - \frac{1}{F}(c_c + l_c)\varphi(\overline{p_w}) - \frac{1}{F}\left(\overline{\overline{p_w}}(c_m + F) + (1-\overline{\overline{p_w}})c_m + l_t\right)\varphi(\overline{\overline{p_w}})$$

$$= \frac{1}{F}(c_m - c_c + l_c)\varphi(\overline{p_w}) + \frac{1}{F}(l_c - k_t + k_c - l_t)$$

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.

Figure 1. Firing Cost.

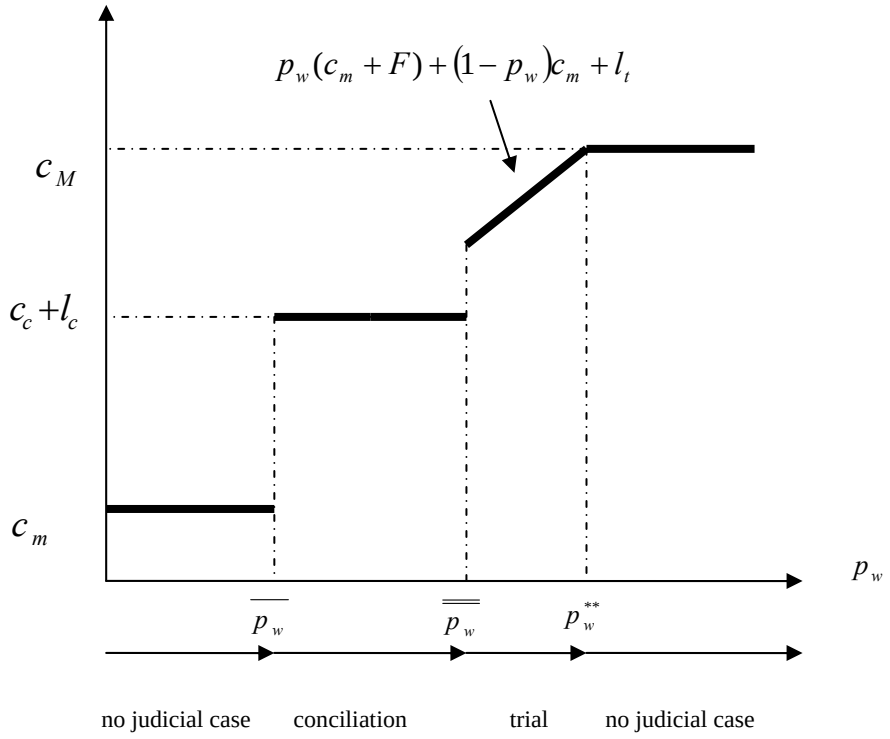


Figure 2. Firing Cost, Case Outcomes and an Increase in the Litigation Cost for the Firm.

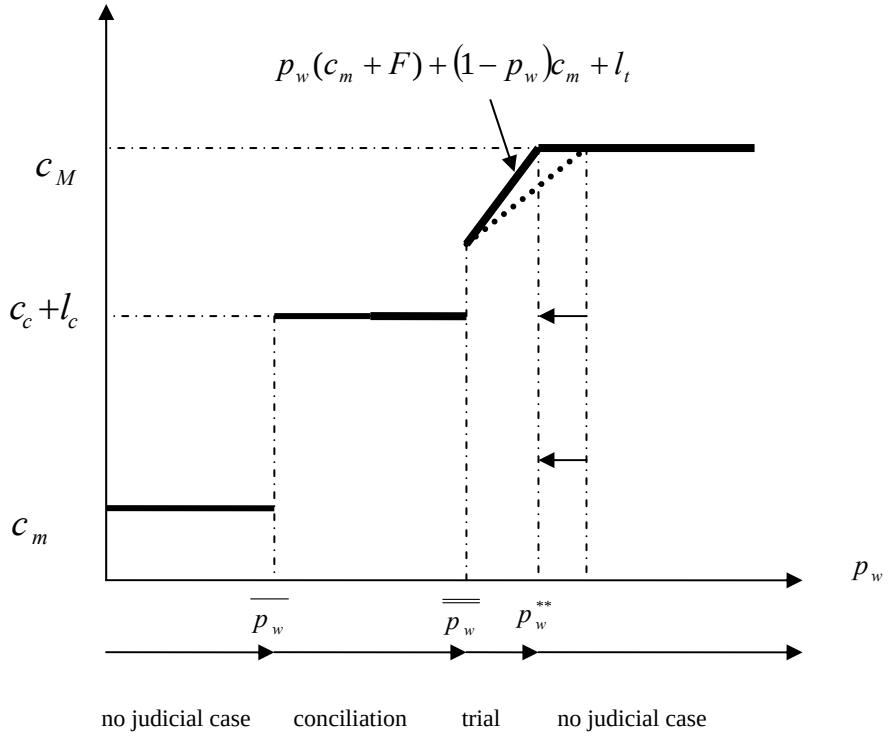


Figure 3. Firing Cost, Case Outcomes and an Increase in the Litigation Cost for the Worker.

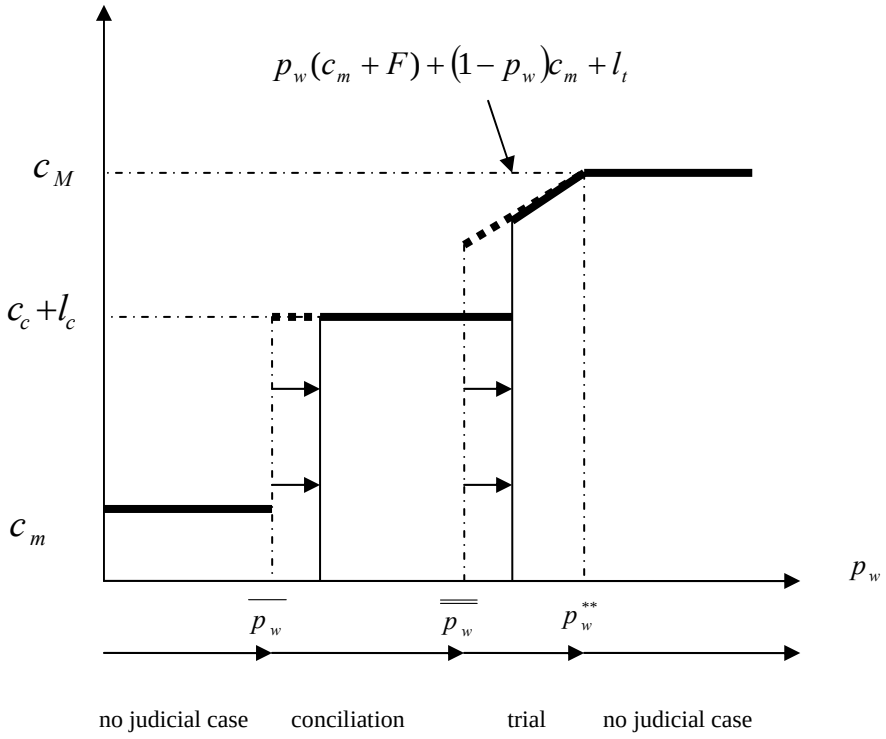
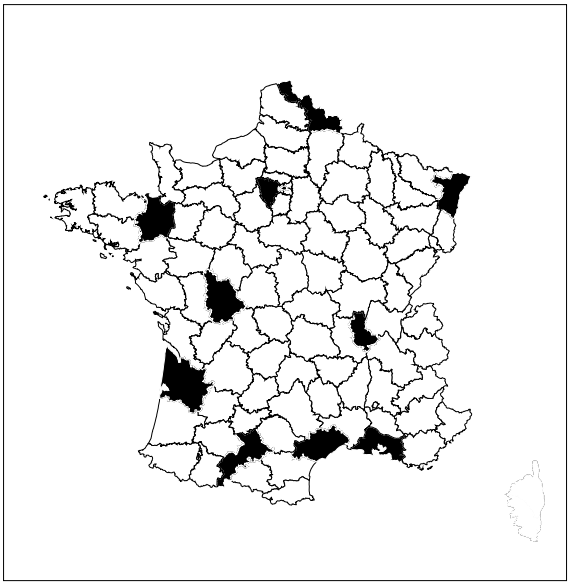


Figure 4. Location of the Universities Training Lawyers.



Note: The 'Départements' where there are universities training lawyers are in black.

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

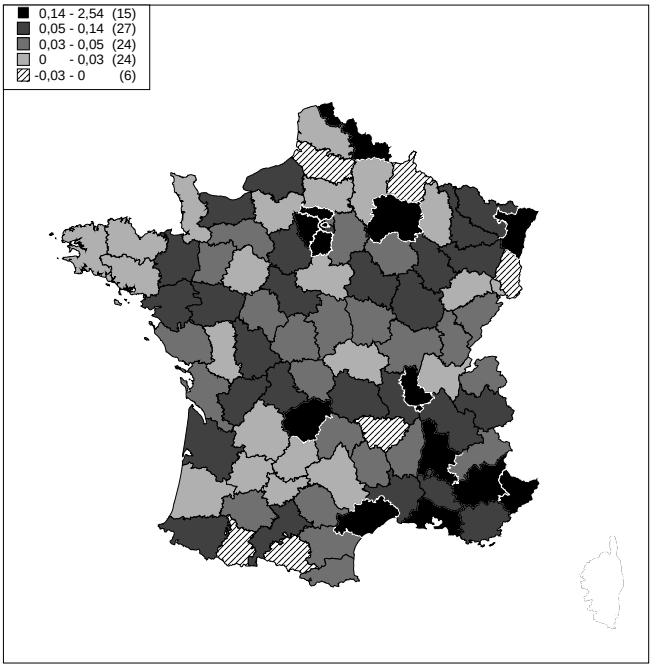


Figure 6. Firing Cost, Case Outcomes and a Decrease in the Lawyers' Costs.

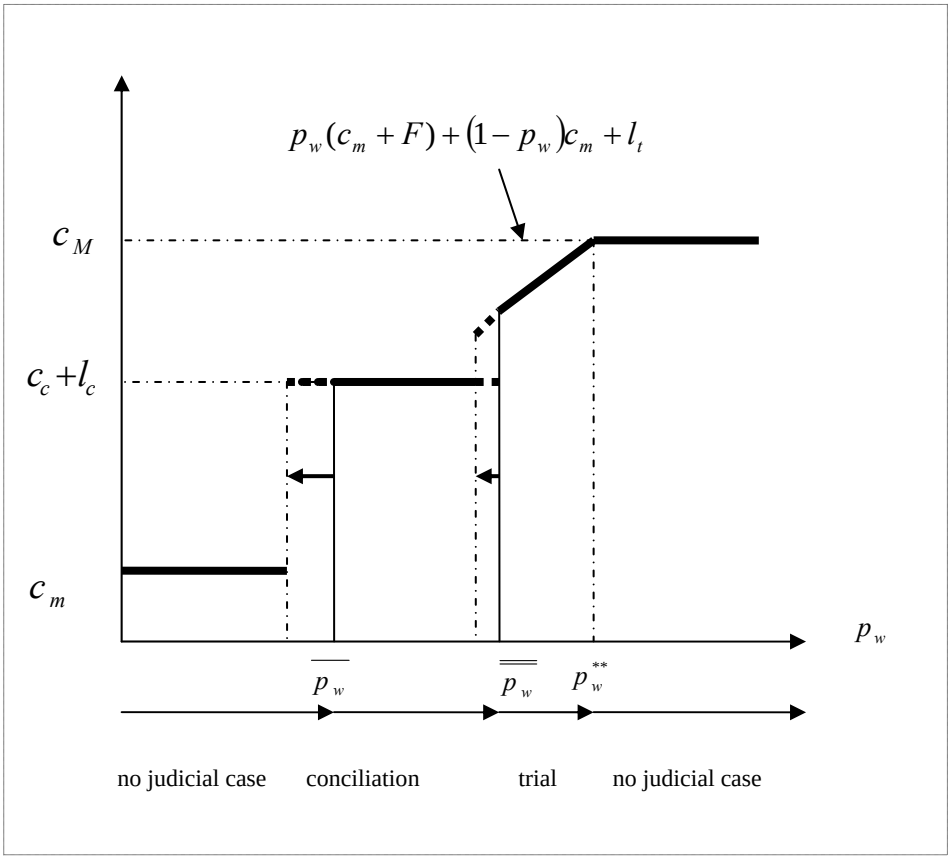


Table 1. Summary Statistics: Judicial Indicators, Job Flows and Lawyer Density.

	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 jurisdition*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.

Table 2. First Stage Regressions: Effect of Lawyer Density 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 sgnificance (p-value)	40.68 (0.000)	12.67 (0.000)	8.11 (0.004)	8.21 (0.000)

Robust standard errors are between parentheses. * significant at 10%; ** significant at 5%, ***significant at 1%. Observations are for 264 jurisdictions and for the years 1996-2003 (2,112 obs.). 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.

Table 3. Reduced-form Regression: Effect of Lawyer Density on Job Flows.

				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

Robust standard errors are between parentheses. * significant at 10%; ** significant at 5%, ***significant at 1%. Observations are for 264 jurisdictions and for the years 1996-2003 (2,112 obs.). 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.

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

Robust standard errors are between parentheses. * significant at 10%; ** significant at 5%, ***significant at 1%. Observations are for 264 jurisdictions and for the years 1996-2003 (2,112 obs.). 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.

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

Robust standard errors are between parentheses. * significant at 10%; ** significant at 5%, ***significant at 1%. Observations are for 264 jurisdictions and for the years 1996-2003 (2,112 obs.). 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.

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

Robust standard errors are between parentheses. * significant at 10%; ** significant at 5%, ***significant at 1%. Observations are for 264 jurisdictions and for the years 1996-2003 (2,112 obs.). 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.

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

Robust standard errors are between parentheses. * significant at 10%; ** significant at 5%, ***significant at 1%. 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.

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

Robust standard errors are between parentheses. * significant at 10%; ** significant at 5%, ***significant at 1%. 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.

Appendix Tables

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

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

Table A.2. The Impact of Past Job Flows on Lawyer Density.

	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	2112

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