



Litigation, Judicial Path-Dependence, and Legal Change

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Abstract

In this paper we consider the role that litigation and case selection play in the process of legal change. After identifying two necessary conditions for litigation, we examine the effect of judicial path dependence on the consolidation of liability rules and legal remedies, paying special attention to litigation with different win–loss ratios. We study the consequence of private litigation decisions on the contraction or consolidation of legal rules under various litigation and judicial environments. We also consider the relevance of the win–loss ratios, the existence and nature of positive litigation costs, and the weight of past precedents on the ongoing process of legal evolution.

Keywords: remedies, litigation, rule of precedent, *jurisprudence constante*, legal evolution, judicial path-dependence

JEL Classification: K0, K40, K13, K41

Due to the very nature of Common law, the boundaries of legal remedies and the domain of legal protection have changed over time. A large number of situations that were outside the domain of existing legal remedies have over time been granted remedial protection. Following different doctrines of precedent, such as *jurisprudence constante*, similar processes of evolution have affected the boundaries of legal rules and remedies in Civil law systems. For example, causes of action in torts have historically increased in number and scope of application under both Common law and Civil law systems (Lawson, 1955; Lawson and Markesinis, 1982; and Parisi, 1992). Yet in other areas of the law, the domain of legal remedies has not experienced similar consolidation. Current theories of legal evolution are unable to explain these changes, let alone predict conditions that may induce changes to legal rules and to the scope of remedies. In this paper, we consider the role of litigation and case selection on the evolution of legal change. We suggest that the dynamic process of case selection and the doctrines of precedent aid in explaining the different patterns of consolidation or gradual contraction of legal remedies in various areas of the law. We consider the importance of the win–loss ratios and the prospect of success of legal claims for the resulting process of legal change.

Section 1 briefly assesses existing explanations of the process of legal change and reviews the seminal papers that evaluate the process of selection of disputes as an ingredient of the efficient evolution of legal rules. These contributions, while compelling in their rights, fail to provide a framework that could explain or predict different outcomes to litigation that shift the thread of legal change. Section 2 proposes a model that evaluates the impact of case selection on legal evolution in different litigation contexts, highlighting the interaction among selection of disputes, litigation stakes in the case, and litigation costs as well as their impact on legal change. The model of path dependence in the law suggests the rate of recognition of legal claims brought by plaintiffs in past cases affects the state of the law in the future. In this precedential system, a prevailing rate of negative judgments on a specific legal issue reduces the likelihood that such a claim will be successful in future cases.¹ Likewise, a high rate of success and recognition of new types of claims and/or causes of action increase the probability that similar claims will be recognized and those rights expanded in future cases. In such a system, evolution of the law is affected by the rate of positive and negative judgments, which in turn depends on the relationship between some critical parameters of the dispute. More specifically, we investigate how the processes of creation and change of legal precedent are affected by litigation stakes, the probability of success of plaintiffs' claims, and the institutional weight attached to past precedents. Section 3 concludes with a few summary considerations and suggestions for applications and future extensions.

1. Legal evolution and the changing boundaries of remedies and liability

We frame our paper in the context of the existing literature on dispute selection and legal evolution. A well-known result of the efficiency of the common law hypothesis is that judge-made law attempts to allocate resources efficiently. This claim has generated extensive research in law and economics. According to this hypothesis, first intimated by Coase (1960) and later systematized and greatly extended by Posner (e.g., Ehrlich and Posner, 1974; Posner, 1994), judicially created rules enjoy a comparative advantage over legislation in generating efficient rules because of evolutionary selection through adjudication and the gradual accretion of precedent.² Several important contributions provide the foundations for this claim, though scholars who have advanced theories in support of the hypothesis often disagree as to their conceptual basis.

Fundamental ingredients of the evolution of judicially created rules are the doctrine of precedent of *stare decisis*³ and *jurisprudence constante*.⁴ Rubin (1977) argues that efficiency of the judicially created rules is best explained by noting that parties are more likely to litigate inefficient rules than efficient ones. The pressure for case law to evolve to efficiency, he argues, rests on the desire of parties to create precedent because they have interest in future similar cases. Rubin thus considers three basic situations: (1) where both parties are interested in creating precedent (because both are likely to be repeat players); (2) where only one party is interested in creating precedent; (3) and where both parties are likely to be one-time players.

When both parties have interest in future similar cases and the current legal rule is inefficient, Rubin claims that the party held liable has an incentive to force litigation.

Parties will continue to use the courts until the rule is changed. If the current rule is efficient, however, there is no incentive to change it, so the rule will remain in force and litigation is unlikely to ensue. Where only one party has interest in future similar cases, the incentive to litigate depends on the allocation of liability. If liability falls on a repeat player, litigation likely occurs. But if it falls to a one-time player, that party has no incentive to litigate. As a result, precedents evolve in the repeat player's favor, whether or not the rule is efficient. In the event that neither party is interested in precedents, the status quo legal rule likely remains in force whether efficient or not. In this scenario, parties are more likely to settle out of court because they lack incentive to demand changes in the status quo. Rubin's analysis rests on the fundamental premise that evolution of the Common law is driven by the utility maximizing decisions of litigants, rather than on a judicial interest in efficiency.

Rubin's analysis was extended by Priest (1977), who articulated the idea that common law tends to develop efficient rules independent of judicial bias in decision-making. Priest asserts that efficient rules develop even in the face of potential judicial hostility toward efficient outcomes. He parts with Rubin, however, on the source of the tendency toward efficiency, rejecting Rubin's conclusion that this tendency occurs only where both parties to a dispute have interest in future similar cases and therefore have incentives to litigate. Instead, he asserts that litigation is driven by the costs of inefficient rules, rather than the desire for precedent. According to Priest's analysis, inefficient rules impose greater costs on the parties than do efficient rules, thereby making the stakes in a dispute higher. When the stakes are greater, litigation becomes more likely than settlement. Consequently, disputes arising under inefficient rules tend to be litigated more often over time than disputes arising under efficient rules. The corollary is that uncontested rules tend to be efficient. Because efficient rules are less likely to be reviewed, they tend to remain in force. Further, as inefficient rules are reviewed, the review process increases the opportunities for them to be discarded in favor of more efficient variants that are less likely to be reviewed. Thus, the legal system perpetuates selection of increasingly more efficient legal rules.

The criteria for selecting disputes for litigation are important components of the theories advanced by Rubin (1977) and Priest (1977). Only disputes that are actually litigated are capable of generating legal precedents. Disputes that do not lead to a filing or that are settled before final judgment have no impact on current law. Priest and Klein (1984) develop a model of the litigation process that explores the choice between litigating a dispute and resolving it via settlement. Priest and Klein show that the set of disputes that proceed to litigation constitutes neither a random nor a representative sample of all disputes. They then derive a selection hypothesis: when both parties have equal stakes in the litigation, individual maximizing decisions of the parties create a strong bias toward a success rate for plaintiffs at trial (or appellants on appeal), regardless of the substantive law.⁵

Fon and Parisi (2003) build upon existing literature on the evolution of the judicially created law, considering a model of legal evolution in which judges have varying ideologies and propensities to extend the domain of legal remedies and causes of action. In their model plaintiffs decide whether to file suit based on the likelihood of success in the specific court. Given differing judges' ideology, the parties' rational decisions create a strong bias toward filing in liberal jurisdictions. This means liberal judges have a greater opportunity to create new legal precedents than conservative judges.⁶ Their model departs from the previous

literature in several important aspects. Unlike Rubin (1977), their results do not rely on the parties' incentives to create precedents. The selection of disputes does not occur because parties have asymmetric interests in future similar cases and therefore have incentives to avoid unfavorable precedents. Instead, litigation is exclusively driven by the attempt to maximize returns from the case. The net expected value of the case depends on the objective merits of the case, the state of the law, and the ideological propensity of the judge. When the policy views of judges are capable of affecting decisions in marginal cases, case selection might create a strong bias toward filing marginal cases in pro-plaintiff jurisdictions, i.e., forum shopping. This means that progressive judges have a greater opportunity to create new legal precedents than conservative judges. In their model, this generated a potential increase of remedial protection in the legal system. This selection mechanism was shown to have a potentially adverse effect on the process of legal change. More specifically, the combined presence of differences in judges' ideology and plaintiff's case selection was shown to generate a steady trend in the evolution of legal rules and remedies.

Although much emphasis has been given to the failed-settlement condition in the decision to file a suit, this paper highlights the importance of an often overlooked condition. For a threat of litigation to be credibly made, the expected net judicial award should be positive. This paper follows the previous literature, assuming that the opportunity to file a case initially is controlled by the plaintiff, creating an occasion for case selection. We thus assume that cases that may lead to litigation have a positive expected net return, and concentrate on the effect of this overlooked "precondition" for the emergence of a relevant legal dispute on the evolution of precedents.

2. Selection of disputes and legal evolution

In this Section, we consider the impact of different litigation stakes and litigation costs on the selection of disputes and on the resulting process of legal evolution. After considering the potential role of judicial path dependence under doctrines of precedent and *jurisprudence constante*, we consider litigation and case selection under conditions of costless litigation and litigation with positive litigation costs. These elements provide the building blocks for a general understanding of the conditions that may lead to consolidation or contraction of legal precedents and judicial remedies.

2.1. *Precedents, jurisprudence constante and judicial path-dependence*

We consider the impact of case selection on the formation of legal precedents, and study the role of precedents under *jurisprudence constante* doctrines, where a judge does not consider himself bound in any way by a single decision in a single previous instance. Rather, considerable authoritative force stems from a consolidated trend of decisions on a certain point. The practice of the courts does not become a source of law until it matures into a prevailing line of precedents (Lambert and Wasserman, 1929: 14). This is found in the Louisiana system of *jurisprudence constante* (Dennis, 1993; Dainow, 1974) and other mixed jurisdictions and in the comparable doctrines of precedent in various Civil law systems (MacCormick and Summers, 1997).

Louisiana law provides that a precedent becomes a source of law when it has become “settled jurisprudence” (*jurisprudence constante*). As pointed out by Louisiana Supreme Court Justice James Dennis, when a prevailing trend of cases forms a stream of uniform and homogeneous rulings with the same reasoning, the doctrine accords the prevailing jurisprudence persuasive authority. The doctrine of *jurisprudence constante* allows future courts to take into account past jurisprudential trends and justify reliance on such precedents in the decision of future cases (Dennis, 1993). Likewise, Germany has adopted the notion that a line of decisions on a certain subject creates a sort of judicial custom. A prevailing line of precedent that has been standing for some time is referred to as “permanent adjudication” (*ständige Rechtsprechung*) (Dainow, 1974). These examples are representative of a general trend within civilian jurisdictions of according persuasive force to a prevailing trend of jurisprudence.

Under these doctrines of precedent, if the rate of positive judgments with respect to some new legal issue or interpretation of existing causes of action falls above a critical threshold π (a threshold that is institutionally determined by the legal system), the recognition of such legal claims in future disputes will be facilitated by the presence of legal authority. This creates path dependence in the process of legal evolution, since past jurisprudential rulings affect the likelihood that such rules will be perpetuated in future case law. New legal issues presented to a court will have a rate of success that, for any given merit of the case, also depends on litigation stakes and the litigation costs. Different combinations of parameters will generate different choices of case selection, and consequently different probabilities of positive versus negative leading precedents.

The following discussion will be framed in the context of a *jurisprudence constante* regime, looking at the percentage of positive versus negative precedents, rather than at the probability of positive versus negative leading cases. We thus assume that when past litigation generates a percentage of positive precedents that falls above π , legal evolution induces a gradual consolidation of new remedies and causes of action. The following analysis contemplates a threshold $\pi = 1/2$, which implies that a majority of precedents on a given legal issue would be regarded as persuasive authority, increasing the chances of success for future similar cases. In other institutional settings a threshold different from the value of $\pi = 1/2$ would mean that more than a simple majority of past decisions is necessary to influence decisions on future similar cases.

2.2. Case selection: Two necessary conditions for litigation

In our model of civil litigation, litigants face a dispute where p is the probability of success for the plaintiff. Following Priest and Klein (1984) and Fon and Parisi (2003), we assume that potential litigants form rational estimates of the probability of success in litigation and take them into account when evaluating expected returns from their cases. The parties’ expectations, although unbiased, have some margin of error, which explains why some disputes are litigated, rather than settled before trial.⁷ When a plaintiff verdict is obtained the judicial award is W . In the case of a verdict in favor of defendant, the plaintiff suffers a prejudice equal to L to the defendant. This prejudice can be interpreted as the net present value of the loss from litigation in future similar cases (as in Rubin, 1977) or the immediate

cost imposed on plaintiffs or any other liability imposed by the court in case of unsuccessful action by court sanctions or defendant's counterclaims.⁸ Plaintiffs face direct litigation costs C (e.g., filing fees, attorneys' fees and cost of bringing the action). These costs are not recovered once litigation is carried out and a final judgment is rendered.⁹

Plaintiffs are rational in deciding whether to pursue litigation. There are two necessary conditions that need to be satisfied before a legal claim is filed.¹⁰ First, the expected judicial award should be greater than the non-recoverable portion of litigation fees. That is to say, the expected net judicial award should be positive. Second, the expected net judicial award should exceed the settlement amount offered by the defendant. Only when these two conditions are satisfied sufficiency of conditions results. Although much emphasis has been given to the latter condition in the litigation literature (Posner, 1973; Priest and Klein, 1984; Shavell, 1993; Kobayashi, 1996), the first condition plays an important role in the litigation choice. In fact it is only when the first condition is fulfilled that the second condition becomes relevant. If the expected net recovery falls below the litigation costs, the expected net recovery is negative and no threat of litigation can be credibly made. As a result, no settlement offer can be extracted from the would-be-defendant in equilibrium.

We thus concentrate on the effect of this overlooked "precondition" for the emergence of a relevant legal dispute on the evolution of precedents. Given the presence of two necessary conditions, cases that will ultimately lead to a judicial precedent will be a subset of cases that have satisfied such conditions. The existing literature, focusing on the filing versus settlement decision, has shown that Common law precedents tend to evolve towards efficiency. We complement the existing literature by showing how the "positive expected net return condition" may create a bias in the evolution of case law.

The condition for a plaintiff's credible threat of litigation is that a case, if filed, should yield a positive expected net judicial award.¹¹ The net expected return of the litigant is given by the following:

$$R = p \cdot W - (1 - p) \cdot L - C, \quad (1)$$

Whenever the value R is negative, the plaintiff's threat of litigation would not be credible and no filing or judicial ruling would take place. To clarify the impact of the magnitude of litigation stakes on the decision problem, we highlight the win-loss ratio W/L and concentrate on the normalized expected return function by rewriting Eq. (1):

$$\frac{R}{L} = p \cdot \left(\frac{W}{L} + 1 \right) - \left(\frac{C}{L} + 1 \right). \quad (2)$$

Our analysis proceeds by considering the relevance of litigation costs and litigation stakes on the process of legal evolution.

2.3. *Costless litigation*

We first consider the simple case of costless litigation $C = 0$. This will serve as a useful stepping-stone for understanding the more realistic cases of costly litigation. Without loss

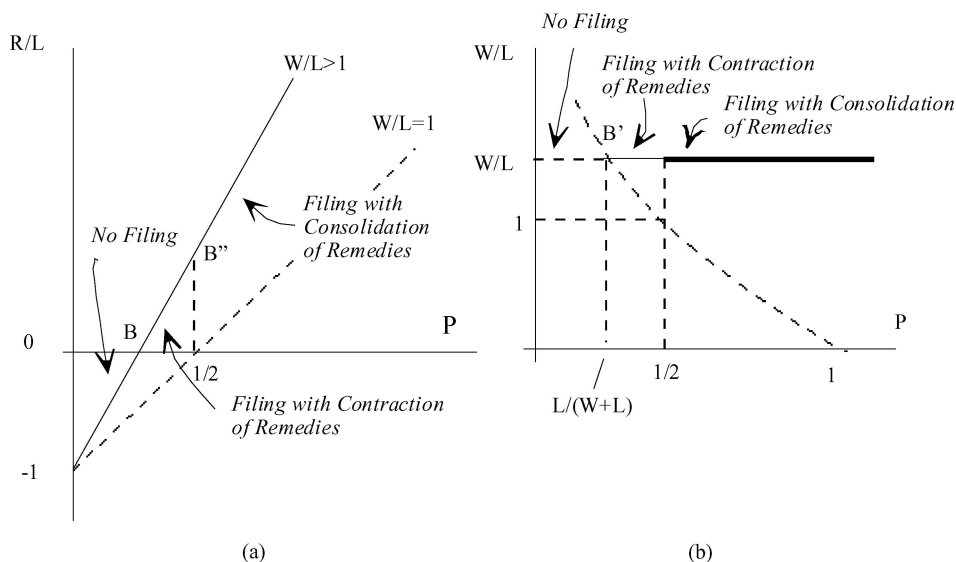


Figure 1. (a) Expected return with $C = 0$. (b) Filing decision with $C = 0$.

of generality, our attention will be limited to the more realistic case of $W > L$. Similar analysis could be applied to the complementary case of $W < L$.

Figure 1(a) shows the expected return curve as a function of the probability of winning p . Figure 1(b) shows the filing decision, where the dotted curve represents zero expected return for the case with no litigation cost, indicating potential substitutions between different win-loss ratios and probabilities of winning on break-even litigations.¹² Point B in figure 1(a) and point B' in figure 1(b) correspond to zero expected return when p is equal to $\frac{L}{W+L} = \frac{1}{1+W/L}$. For all cases corresponding to $p < \frac{1}{1+W/L}$, the expected return from litigation is negative, and the plaintiff rationally avoids filing suit. These cases are also represented by points to the left of B' in figure 1(b).¹³ For cases corresponding to $p > \frac{1}{1+W/L}$, the plaintiff files suit since the expected return from litigation is positive.

In order to understand the impact of litigation stakes on the process of legal evolution, it is important to realize that a case may be rationally filed even when the probability of success is less than 50 percent. However, although privately rational, the filing of suits in low probability cases may have a negative impact on the likelihood of success for future similar cases. When past litigation generates a flow of negative precedents that outweighs the positive precedents, the percentage of positive precedents falls below the critical threshold $\pi = 1/2$, and the process of legal evolution generates a gradual contraction in the scope of remedies. In the current case, cases that are filed but which would lead to contraction of remedies are represented by points between B and B'' in figure 1(a). These cases are also represented by the lighter portion of the solid W/L line in figure 1(b).

For all cases corresponding to $p > \pi = 1/2$, the probability of success for litigation is above the relevant threshold and consolidation of jurisprudential rules would likely occur.

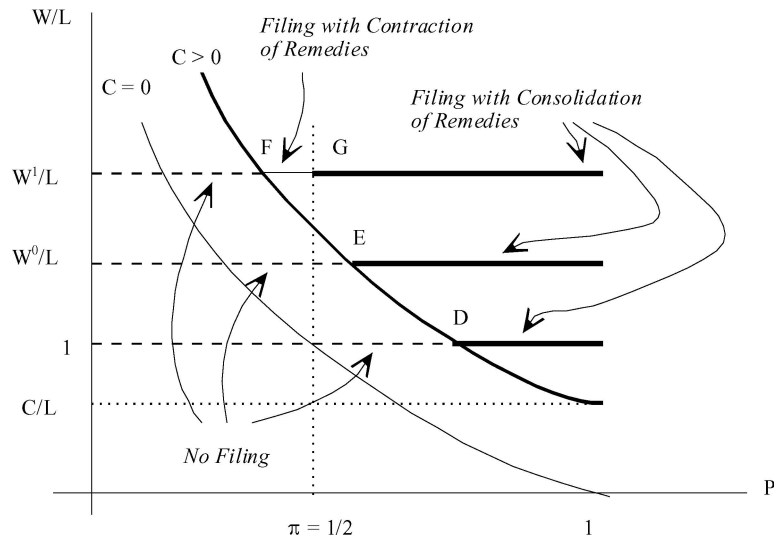


Figure 2. Filing decision with $C > 0$.

This is true because more positive precedents will be generated with resulting path dependence in the evolution of case law. These conditions foster consolidation in the scope of remedies and legal protection.

2.4. Costly litigation

We next turn our attention to the case with positive litigation cost, considering the impact of such costs on the process of case selection and evolution. Figure 2 shows the zero-expected-return curve for positive litigation cost (represented as the darker hyperbola marked as $C > 0$) along with the zero-expected-return curve for zero litigation cost (represented as the lighter hyperbola marked as $C = 0$).¹⁴ Three different win-loss ratios are presented in figure 2. As before, for any given win-loss ratio, all points to the left of the zero-expected-return curve correspond to cases with negative expected returns. Rational plaintiffs would not file suits in this region. Hence, for example, in the case of win-loss ratio W^1/L and positive litigation cost, no filing would take place in the region between the vertical axis and point F .

On the other hand, for any given win-loss ratio, all points to the right of the zero-expected-return curve correspond to cases with positive expected returns. These cases are potential candidates for filing by rational plaintiffs. In such region of positive expected returns, if the probability of winning is greater than the critical threshold $\pi = 1/2$, consolidation of jurisprudential rules obtains. When past litigation generates a percentage of positive precedents that falls above π , legal evolution induces a gradual consolidation of legal rules and remedies. For example, given the intermediate win-loss ratio W^0/L in figure 2, the region to the right of point E is characterized by gradual consolidation. Here the probability of success required to induce litigation also suffices to induce consolidation of judicial precedents, fostering a consolidation of judicial remedies and legal protection.

Meanwhile, for all suits with probability p falling to the right of the zero-expected-return curve but to the left of the critical threshold $\pi = 1/2$, cases would be filed. However, the small percentage of positive precedents would lead to a contraction of remedies. For example, given the high win–loss ratio W^1/L in figure 2, the region between points F and G would be characterized by active litigation but contraction in the scope of remedies and legal protection. This is true because the probability of success sufficient to generate positive litigation falls below the threshold π and contraction follows as a consequence of the high rate of negative precedents generated overtime.

2.5. *Litigation and legal change*

Consider a system of legal precedents where past decisions are taken into account by courts only when there is a sufficient level of consistency in case law. Following Fon and Parisi (2004), we assume that no single decision binds a court, and no weight is given to split jurisprudence in this system. Although a judge is not bound by a single decision in a single previous instance, authoritative force stems from a consolidated trend of decisions on a given legal issue. We further continue to assume that litigants form rational and unbiased estimates of their probabilities of success in litigation. This ensures a correspondence between the litigants' estimated winning probabilities and the percentage of cases actually upholding plaintiffs' claims. Thus *ex ante* win probabilities can be treated as *ex post* fractions of positive precedents.

If the fraction of positive judgments (or the fraction of negative judgments) with respect to a legal issue exceeds the threshold, then recognition of such legal claims in future disputes will be facilitated (or made more difficult) by the presence of such consolidated case law. This creates path dependence in the process of legal evolution, since a consolidated trend of past jurisprudential rulings affects the likelihood that such rulings will be perpetuated in future case law. In the face of any legal claim presented in court, a *jurisprudence constante* regime can therefore evolve in two possible ways. A claim may be accepted by a sufficiently large percentage of cases, giving rise to a dominant “positive” jurisprudence. Positive precedents become persuasive authority when their density in past cases exceeds the critical threshold. Alternatively, a claim may be negated by a sufficiently large percentage of cases, establishing a dominant “negative” jurisprudence. Negative precedents influence future decisions when the density of positive precedents falls short of the critical threshold.¹⁵

Figure 2 also brings together our findings for different litigation stakes, when litigation involves a positive litigation cost C and a fixed loss L . All points to the southwest of the zero-expected-return curve (i.e., break-even litigation curve) correspond to cases that generate negative expected payoffs and are thus not filed.¹⁶ All cases to the northeast of the zero-expected-return curve correspond to cases that generate positive expected payoffs and are thus candidates for filing. Within this filing region, the area to the left of the critical threshold $\pi = 1/2$ represents the region of contraction in the scope of remedies, while the area to the right of $\pi = 1/2$ represents the region of gradual consolidation of positive judicial precedents and legal remedies.¹⁷

With high win–loss ratios, cases can be rationally filed even when the probability of success is small. As a result, the number of negative precedents may outweigh the number

of positive precedents. When the percentage of positive judgments falls below π , the filing of the first cases leads to consolidation of negative authority. This process of judicial path dependence may induce a gradual contraction in the scope of remedies. Conversely, if the probability of positive judgments falls above π , initial filings may be followed by a gradual consolidation of remedies. Figure 2 depicts some of the relevant tradeoffs in this process of legal evolution: an increase in the win–loss ratio renders smaller probability cases worthy of pursuit. This increases the region characterized by contraction. It is also easy to see that given a fixed win–loss ratio, an increase in litigation costs requires a higher probability of success to justify litigation. This, in turn, may decrease the region with a gradual contraction of remedies.

As cases are filed over time, the distribution of p changes depending on where the case falls relative to the critical value π . This will change the parties' expected success rate and consequently their decision to litigate future similar cases. Thus, the likelihood of success of a given claim changes overtime depending on what happened in a previous period.¹⁸ Finally, figure 2 shows that the relative size of the regions with consolidation versus contraction critically depends on the institutional choice of π . More generally, a change in the institutional weight of past precedents may have a substantial impact on (i) the domain of the region characterized by stable remedies; and (ii) the direction that the process of legal evolution may take. For example, an increase in the level of case consistency required for an emerging jurisprudential trend to become binding case law may reduce the likelihood of gradual consolidation of jurisprudential trends and undermine conditions for legal stability.

3. Conclusion

As is well known in the literature, the selection of disputes for litigation is biased by the parties' litigation choices. Following previous work by Fon and Parisi (2003), we examined the role of case selection and litigation in the evolution of legal remedies. Fon and Parisi considered the case of litigation allowing judges to differ in their ideological or policy views. The results of the present paper do not rest on judges' ideological decision-making. Rather, all judges, regardless of their ideology, give deferential weight to past decisions, when the weight of authority falls above a threshold determined exogenously by the legal system. Our extension reveals that the increase in the scope of remedies is not necessarily a consequence of adverse selection in litigation. In many ways, the results complement those reached in the earlier literature and serve as important building blocks for studying the more complex interaction between ideological judicial intervention and path dependence in judicial action.

This paper reveals that judicial path dependence may lead to gradual consolidation or contraction of legal remedies. Increases in win–loss ratios imply that cases can be rationally filed also when the probability of success is fairly small. The result is that a large number of negative precedents—those affirmatively denying the recognition of a new cause of action or restrictively interpreting the scope of application of an existing remedy—may be produced. When the percentage of positive judgments falls below the level of support that the legal system in question considers necessary before widespread judicial recognition occurs, an initial wave of filing may be followed by a gradual implosion. Conversely, in other instances

an initial judicial innovation may be followed by gradual consolidation of legal precedents. A small fraction of early favorable decisions could lead to wider acceptance and eventually consolidate into a binding doctrine.

It is noteworthy that in all such cases parties' private choices have public consequences on the future state of the law. In the presence of judicial path dependence, the private incentives of individual plaintiffs may diverge from the incentives of future plaintiffs. This may be for either of two reasons. In low probability cases, filing may be privately rational but detrimental to the interest of future similar plaintiffs: the filing of suits in low probability cases may have a negative impact on the likelihood of success of future similar cases. On the other hand, the filing of a case with high probability may not be privately rational due to high litigation costs or low win/loss ratio, although filing would increase the probability of success for future similar cases. In both cases, the presence of externalities cannot be fully internalized by current private parties. For the collective well-being of present and future plaintiffs, this may lead to too much or too little litigation. But, unless we assume that success rates systematically reflect the social desirability of the remedy, the intertemporal externalities created by current plaintiffs towards future similar plaintiffs do not necessarily create socially relevant externalities and no normative conclusions should be drawn.

In this paper we analyze an often overlooked precondition of litigation and set out the circumstances under which different patterns of legal change may occur. We considered the relevance of litigation stakes, the presence of positive litigation costs, and the weight of precedents on the process of legal evolution. Our analysis sheds light on the process of legal evolution and provides the basis for further research on legal change under different doctrines of precedent. It offers a benchmark for the comparative analysis of different doctrines of precedent and provides insights to the institutional design of judicial lawmaking and the importance of giving optimal weight to precedent in a variety of dynamic settings. An extension of our model of case selection should verify if a similar process of legal evolution could be at work under a Common law system of precedents. A modified version of our model could be applied to Common law doctrines of *stare decisis* inasmuch as the probability of generating a positive rather than a negative leading case depends on the parameters considered.

We implicitly assumed that positive precedents (i.e., those granting a remedy or recognizing a cause of action) have equal weight as negative precedents (i.e., those denying a remedy or cause of action). In different settings and future extensions, this assumption could be relaxed, to consider the asymmetric effect of positive and negative precedents. For example, legal systems may give greater weight to a minority view, when it recognizes a new cause of action or expands the scope of existing remedies (in many ways, leading cases in a traditional Common law system may be regarded as examples of this category). In such situations, the threshold marking the boundary between situations of consolidations of legal remedies and contraction of legal remedies may change. In the context of our model, different positioning of the threshold may explain the different trends of evolution of tort liability in different legal systems. For example, the stylized fact that expansion of tort remedies is less pronounced in Europe than in the United States (Tellinghast and Perrin, 1995) can be explained by the fact that the precedential threshold in Civil law jurisdictions is shifted

to the right of the standards of precedential value accepted in Common law jurisdictions, since no single leading case or limited set of leading cases constitute binding authority under Civil law.

Future work should also examine the fitness of our model in explaining the changing patterns of legal change and evolution of legal remedies, and the varying tendencies of legal systems to grant increasing levels of relief for plaintiff's claims (e.g., situations that were once considered outside the domain of compensable harm are gradually granted protection in the law). Additionally, further theoretical extensions should consider the effects of adverse selection and judicial path-dependence in conjunction with different procedural systems and alternative fee-shifting arrangements.

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Notes

1. For an analysis of the precedential systems of *jurisprudence constante* in Civil law and Mixed jurisdictions, see Dennis (1993), Dainow (1974) and Moreno (1995). For a comparative study of the rule of precedent, including the Spain, Finland, Norway, Sweden, Germany, France, and the U.K., see MacCormick and Summers (1997).
2. See however the opposing claims of some public choice theorists (most notably, Tullock, 1980, 1997) who look at pervasive shortcomings of the Common law process in the formation of legal rules. For a review of the seminal papers that contributed to the formulation of the efficiency of the Common law hypothesis, and of their critics, see Posner and Parisi (1997).
3. The legal doctrine of *stare decisis* (literally, to stand by things that have been settled) implies that courts should adhere to past legal precedent on issues of law when deciding pending cases. The doctrine is aimed at promoting certainty, consistency, and stability in the legal system and minimizing costs in the administration of justice.
4. *Jurisprudence constante* doctrines hold that judges should only consider themselves bound to follow a consolidated trend of decisions. Judicial decisions do not become a source of law until they mature into a prevailing line of precedents (Lambert and Wasserman, 1929; Dainow, 1974; Dennis, 1993).
5. When the assumption that both parties have equal stakes in the dispute is relaxed (e.g., where one party is a repeat player and has a stake in future similar cases), the rate of success in litigation begins to deviate from the hypothesized baseline, and the model predicts that the repeat player prevails more frequently. Priest and Klein (1984) use data both from their own empirical investigations and from major empirical studies of the legal system since the 1930s. While they caution against drawing conclusions from the data, largely due to measurement problems, their results nonetheless provide support to the selection hypothesis.
6. The selection hypothesis advanced by Fon and Parisi (2003) differs from Priest and Klein (1984) and Hadfield (1992). Along the lines of Rubin and Bailey (1994), Fon and Parisi develop an alternative model of legal evolution which takes into account some important public choice components, such as the role of judges and ideology. While Rubin and Bailey focus on the role of lawyers in changing the law, Fon and Parisi consider the role of judges' ideology.

7. In real life this information may be available before filing or after filing. In both cases, rational estimation of the probability of success influences the decision whether to pursue, or to continue, litigation. Only those cases that pass this initial phase potentially lead to law-creating legal precedents.
8. The interpretation of loss L as the damages that may be awarded to defendant in the event of a successful counterclaim may benefit from an extension of the model in which the probability of success of the plaintiff's claim is independent from the probability of success of the defendant's counterclaim. Unlike the traditional interpretation of L a-la-Rubin (1977) or the possible interpretation of L as court-imposed sanctions (e.g., fines for frivolous litigation, etc.), the probabilities of success of the principal claim and the counterclaim are not complementary.
9. In many real-life situations, plaintiffs face different choices of litigation expenditures, C . In turn, different litigation efforts affect the probabilities of success p and the expected magnitudes of W and L . In the following, we assume that the parties rationally choose the most effective litigation effort. The parameters in the model refer to such choice of expenditure in litigation, and the resulting probabilities of success and expected judicial award.
10. We would like to thank an anonymous referee for helping us clarify these two dimensions of the litigation problem.
11. Note that our formulation does not include the forgone settlement payment, since we concentrate on the existence of a positive-net-return claim as a precondition of a viable dispute. In this respect, our formulation differs from Priest and Klein (1984).
12. The dotted curve represents the hyperbola $W/L = 1/p - 1$, showing the tradeoff between the win-loss ratio W/L and p when the expected return R/L is zero with $C = 0$.
13. Points to the south-west of the zero-expected-return curve in figure 1(b) correspond to negative expected returns.
14. The equation for the zero expected returns for positive litigation cost is $\frac{W}{L} = \frac{1}{p}(C/L + 1) - 1$. Note that the zero-expected-return curve for $C = 0$ intersects the P -axis at $P = 1$, while the zero-expected-return curve for $C > 0$ stops at $W/L = C/L$ when $p = 1$. Both zero-expected-return curves asymptotically approach the vertical axis.
15. For the purpose of the present analysis, we assume that the threshold π is exogenously determined by the legal system. Obviously, the findings of this paper should have normative implications and illuminate the institutional choice of the optimal threshold π .
16. This no-filing region is given by $\{(p, W/WL)/p < \frac{C/L+1}{W/L+1}\}$.
17. The region of contraction in the scope of remedies and the region of gradual consolidation of positive judicial precedents are respectively given by $\{(p, W/L)/\frac{C/L+1}{W/L+1} \leq p < \pi = \frac{1}{2}\}$ and $\{(p, W/L)/\frac{C/L+1}{W/L+1} \leq p \text{ and } \pi = \frac{1}{2} < p \leq 1\}$.
18. Fon and Parisi (2004) develop a dynamic model of evolution of precedents where judges are influenced by recent jurisprudential trends and fads in case law. The higher the level of uniformity in past precedents, the greater the persuasive force of case law. The evolution of case law is modeled, considering the possibility for consolidation, corrosion and stability of legal rules. For a previous contribution on judge-made law in a dynamic setting, see von Wangenheim (1993).

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