Interlocutory Remedies:
Efficient Responses to Legal Uncertainty?

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1 Introduction

Temporary restraining orders, preliminary injunctions, supersedeas writs, preventive injunctions and declaratory judgments are all interlocutory remedies that respond to basic legal uncertainty. Interlocutory remedies are, for the most part, provisional orders, commanding parties to refrain from some action during the pendency of a legal dispute. Temporary, preliminary, anticipatory and intermediate orders are justified as means to preserve a status quo, but they often do more than that. These interlocutory remedies are efficient procedural responses to legal uncertainty. They can be employed to deter inefficient allocation and investment resulting from uncertainty about applicable legal doctrine and facts.

Consider the familiar contract model with perfect expectation damages and one-party (buyer) reliance. When legal entitlements are certain, the model predicts that promisors (e.g., sellers) will preform when efficient (allocative efficiency) while promisess engage in excessive reliance (overinvest investment). The reasoning offered in support of these conclusions is simple and persuasive, given the assumptions of the analysis. In a legal regime awarding expectation damages, promisors internalize the costs of their breaches by being compelled to compensate promisees to exactly offset

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the loss of performance (the efficient breach hypothesis). However, because promisees always receive their performance payoffs (either through performance or the award of damages) they are certain to realize the benefit of investments that increases value of performance, even when performance is not *ex post* efficient. Hence promisees invest more than what is required by efficiency.[1] In the presence of legal uncertainty these predictions do not hold.

To see appreciate the effect of legal uncertainty when introduced into this familiar account, take a contract for the provision of a well-specified good between a seller to a buyer who has paid a fixed amount up-front. Let the seller's cost equal 70 and the buyers value equal 100. Performance of the contract is therefore efficient and expectation damages provide correct incentives for performance: if the seller breaches she saves 70, but must pay 100 in damages. When legal liability is certain, the remedy aligns her incentives so she does that which is socially desirable. But notice how uncertainty over legal entitlements changes the calculation. Imagine there is only a 50% chance that the seller will be obligated to perform at the time performance is due. Given this uncertainty, the seller will no longer find it individually rational to perform, even though performance still remains socially optimal.[2] Additionally, since the buyer is now not assured the performance payoff in every state of the world the incentive to overinvest is reduced.[3]

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[1]Efficiency requires that promisees to take the possibility of inefficient performance into account, but expectation damages induces them to disregard this fact when making investment decisions.

[2]When deciding whether to perform, the seller still compares the expected cost of performance (70) to the expected damages for breaching. Observe, however, that her expected damages are now 50, which reflects the expectation damages (100) discounted by the likelihood that the seller is not liable (50%). So the rational risk-neutral seller will not perform even though she may be required to make the buyer whole *ex post*. This is not an efficient result. Liability rules generally (and expectation damages specifically) do not preserve parties incentives to behave efficiently in the context of legal uncertainty, the quintessential context wherein interlocutory remedies are invoked.

[3]In addition to improving allocative outcomes *ex post*, the preliminary injunction also provides better investment incentives *ex ante*. To see this, assume that the buyer's value of 100 in the previous example is realized only if the buyer invests efficiently. Lets say that the buyer has three discrete investment choices (i.e., 0, 5, and 10), which generate values of 92 for the buyer when investment is 0, 100 when investment is 5, and 106 when investment is 10. Assume further that there is a 25% chance that performance of the contract will be inefficient. Under these circumstances, the efficient level of investment is 5 (an investment of 5 produces an expected marginal social gain of 6 (i.e., $8 \cdot 75\%$), whereas an additional investment of 5 (bringing the total investment to 10) would produce an expected social return of only 4.5 (i.e., $6 \cdot 75\%$). Notice, however, that the expectation remedy encourages the buyer to overinvest (choosing investment level 10) because she gets the full value of investment even when performance is inefficient; whereas adding legal uncertainty encourages the buyer to underinvest (investment level 0) because the seller is not legally obligated to perform 50% of the time. If, however, the buyer can compel performance in the presence of legal uncertainty by using a preliminary injunction, she will no longer underinvest. Nor, in this case, will the buyer overinvest since she is not assured the full value of her investment if the seller is found not legally obligated.

Brooks and Schwartz (2005) argued that preliminary injunctions can correct the distorted performance incentives of promisors by moving the allocative decision to promisees and placing them on the correct margin that in the presence of legal uncertainty. The current draft moves (marginally) toward expanding this claim to interlocutory remedies more broadly and also explores the investment incentives of both parties.[4] The remainder of the draft is organized as follows. The next section begins by briefly describes the most common interlocutory remedies and closes with a short discussion of alternative approaches for achieving efficiency in the presence of legal uncertainty. Section 3 presents the formal model, followed by the analysis in Section 4. The setup and analysis are cast in terms of the preliminary injunction (but may be better viewed in terms of supersedeas writs and bonds, which are the shadow examples). I hope in the discussion at the conference to push beyond the stylized preliminary injunction model of the current draft, toward something more general and broadly applicable. Section 5 (to be completed) will reflect this discussion, followed by a brief conclusion in section 6.

2 Doctrine

Let's begin with **temporary restraining orders**, which are short-term (days typically) ex parte orders issued—without a hearing and often without notice to other parties—under exigent circumstances. Courts are typically responding to some threat of imminent irreparable harm. The restraining order is a stop-gap, meant to preserve the status quo, at least until the court has time to hold a proper, even if preliminary, hearing.[5] As with temporary restraining orders, legal uncertainty and the threat of irreparable harm are the main articulated bases for the issuance of **preliminary injunctions**. Irreparable harm, i.e., legally cognizable harms that cannot be redressed by the award of damages,[6] which is to say, harm that courts recognize as

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[4]Warren and I talked about expanding our prior (2005) analysis to incorporate both allocative and investment considerations. We produced a simple model of preliminary (2008), which is the basis of the formal model in this draft. The upshot of the analysis is that the possibility of securing a preliminary injunction not only leads to efficient allocation in the context of legal uncertainty, it can also reduce both overinvestment and underinvestment. The preliminary injunction places a floor on the tendency to underinvest resulting from legal uncertainty. This may in some circumstances lead to efficient investment, and in all cases provide better investment incentives than that observed in the traditional model without legal uncertainty.

[5]For disputes in federal courts, temporary restraining orders are governed by Rule 65(b) of the Federal Rules of Civil Procedure

[6]If a party does not have a legal right to an entitlement, then any claimed losses for being deprive of that entitlement are not cognizable in court. But not knowing with certainty whether a legal entitlement belongs to a particular party raises a cognizability problem for the court—a problem which it cannot defer until the conclusion of the case

such, but that are unlikely to be compensated at the conclusion of a case due to *uncertainty* in determining the size or nature of harm,[7] the *judgment-proofness* of the defendant or *incommensurability* of the harm with monetary compensation. In the conventional formulation, courts are said to issue preliminary injunctions in order to minimize these irreparable harms.[8]

While **preventive injunctions** may be used to address continuing or ongoing wrong, as well as past wrongs, it is significantly a remedial action to prevent a *threatened* or possible wrong, which cannot be adequately addressed or easily reversed after a *legal* wrong is realized.[9] Preventive injunctions preserve the status quo not only when entitlements are known, but also when they are uncertain. For this reasons, preventative injunctions and declaratory judgments are often connected. A **declaratory judgment** is an order rendered in the absence of any harm and it does not provide for any enforcement. For the court to act without the showing of actual harm, parties seeking a declaratory judgment must make the case that, as with the other interlocutory remedies, the presence of legal uncertainty threatens an irreparable injury.[10]

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since it would be too late to do anything about the losses at that point. Addressing this basic problem is the purpose of the preliminary injunction as traditionally understood.

[7]Plaintiffs only receive damages that can be demonstrated with sufficient certainty in court.

[8]Courts are traditionally directed to compare "the harm to plaintiff if preliminary relief is erroneously denied and the harm to defendant if preliminary relief is erroneously granted." (D. Laycock, *Modern American Remedies: Cases & Materials*, 728). There is a somewhat theoretical formulation of the traditional rule, first presented by John Leubsdorf, that offers a precise statement of the error-minimizing approach. J. Leubsdorf, The Standard for Preliminary Injunctions, 91 Harv. L. Rev. 525 (1978). The Leubsdorf's theoretical approach, subsequently implemented by Judge Posner (in *American Hospital Supply Corp. v. Hospital Products Ltd.*, 780 F.2d 589, 1986) is undertaken by weighing the probability that plaintiff will prevail at the conclusion of the case times the uncompensated harm she will suffer if the injunction is not issued against the probability that defendant will prevail times the costs of complying with the injunction that will not be compensated by the award of damages at the conclusion of the case. Comparing these products, the Leubsdorf-Posner preliminary injunction rule awards an injunction only if

$$\pi H_p > (1 - \pi)H_d$$

where π is the probability that plaintiff will ultimately prevail at the conclusion of the full trial, H_p is the irreparable harm she will suffer if the injunction is not granted and H_d is the irreparable harm that the defendant will suffer if the injunction is granted.

[9]Well-known examples of preventative injunctions were observed in the 2000 U.S. president election dispute over the vote count in the state of Florida, which was settled in *Bush v. Gore*. There "the Bush campaign sought preventive injunctions to restrain various counties from performing recounts after the Florida results had been certified. The Bush campaign did not attempt to overturn results already arrived at, but rather attempted to stop new results from coming in. In turn, the Gore campaign attempted to obtain a preventive injunction to prevent Florida's secretary of state from certifying the election results.

[10]"In other words, it states the court's authoritative opinion regarding the exact nature of the legal matter without requiring the parties to do anything (it is a form of legally

A **supersedeas** is a writ that suspends the authority of a trial court to issue an execution on a judgment that has been appealed.[11] Generally, an appellant may obtain a stay by posting a supersedeas bond or other security.[12] Judgment debtors without liquid assets or adequate capital to secure a supersedeas bond face the real threat of seizure of property. Seized property is often liquidated at costs lower than its value to judgment debtors, who have often made specific investments in the property or otherwise appreciate idiosyncratic value. Moreover, if the judgment debtor is ultimately victorious on appeal, he is usually entitled only to the liquidation price, not the lost value. These parties may therefore plead (again, as with other interlocutory remedies) irreparable harm in the context of legal uncertain, given the appeal, in an effort to convince the judge to use her discretion to stay the judgment and waive the bond.

Generally, trial courts have discretion to set bond form and to approve or deny bonds where justice requires.[13] This reflect a trending change

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binding preventive adjudication). A declaratory judgment does not by itself order any action by a party, or imply damages or an injunction, although it may be accompanied by one or more other remedies.The Federal Rules of Civil Procedure (Rule 57) and Title 28 of the U.S. Code govern declaratory judgments in federal court.

[11]Stays pending appeals are said to be "automatic in a subset of cases (e.g., cases with governmental defendants). In most cases, however, parties are able to enforced a trial court judgment (notwithstanding a timely appeal filed by the judgment debtor) almost immediately—e.g., after 14 days in federal law (Fed. R. Civ. P. 62(a).). Judgment debtors must pursue a supersedeas order, which suspends or "supersedes the authority of a trial court to facilitate the execution on a judgment that has been appealed.

[12]Sometimes called a "defendants appeal bond, a superseadeas bond is a surety contract, which "may be given upon or after filing the notice of appeal or after obtaining the order allowing the appeal. Fed. R. Civ. P. 62(d). The bond requirement is said to exist to ensure "the prevailing party will recover in full, if the decision should be affirmed, while protecting the other side against the risk that payment cannot be recouped if the decision should be reversed. *Cleveland Hair Clinic, Inc. v. Puig*, 104 F.3d 123, 125 (7th Cir.1997). For obvious reasons, judgment debtors often prefer to post a bond or other security, rather than pay the judgment and try to recapture if victorious on appeal (e.g., the judgment creditor may be judgment-proof at the end of the case or may face limited restitution instead of returning full restoration of assets used to satisfy the judgment). However sometime it is better to avoid the bond and pay the judgment while the appeal is underway. In *Miga v. Jensen*, for example, the judgment debtor, who initially posted a supersedeas bond, found it desirable to abandon the bond and pay the $23 million dollar judgment, which was accuring a statutory rate of interest in in great excess of the market rate. The judgment was later reduced to $1 million. 299 S.W.3d 98 (2009).

[13]Amounts tend to be statutorily fixed, especially amongst the states. It is very uncommon for the supersedeas bond to be a live issue. Many states model their supersedeas bond law after federal. Federal Law generally allows more discretion than state law. See, generally, Fed. R. Civ. P. 62(d). In the Seventh Circuit supersedeas bond requirements can be altered if not waived altogether. According to the "non-exclusive factors" announced in *Dillon v. Chicago*, 866 F.2d 902, 904905 (7th Cir.1988), when determining what rule 62(d) requires, a reviewing court may consider: "(1) the complexity of the collection process; (2) the amount of time required to obtain a judgment after it is affirmed on appeal; (3) the degree of confidence that the district court has in the availability of funds to pay the judgment; (4) whether the defendant's ability to pay the judgment is so

from past practices, where a lack of discretion (or perhaps too much) allowed dubious outcomes under the color of law, as illustrated in the case of *Abernathy v. Patterson*.[14] Perhaps the most famous denial of discretionary supersedeas occurred in *Texaco, Inc. v. Pennzoil Co.*,[15] but the recent

plain that the cost of a bond would be a waste of money; and (5) whether the defendant is in such a precarious financial situation that the requirement to post a bond would place other creditors of the defendant in an insecure position." In the Second Circuit the district court has discretion to waive bond altogether; adopts 7th circuit Dillon approach (*In re Nassau County Strip Searches*, 783 F.3d 414, 2d cir 2015); the Fourth Circuit also adopts the *Dillon* factors, but does not allow stay without bond if no alternate security is offered (*Corporate Commission of The Mille Lacs Band of Ojibwe v. Money Centers of America, Inc.*); in the First Circuit arguments can be made for why supersedeas amount should be decreased (*Acevedo Garcia v. Vera-Monroig*, 296 F.3d 13, 1st Cir 2002) in the Third Circuit, the supersedeas can be waived (but only in extraordinary circumstances) or reduced if alternative security is available. Debtor bears burden of presenting alternative security or showing posting bond is impossible of impracticable (*Schreiber v. Kellogg*, 839 F. Supp. 1157, E.D. Pa. 1993); similar in the Fifth Circuit (*Poplar Grove Plating and Refining Co., Inc. v. Bache Halsey Stuart, Inc.*, 600 F.2d 1189, 5th Cir 1979). The Sixth Circuit doctrine is also restrictive, allowing for limited discretion and waiver of bond by district court reviewed on abuse of discretion standard (full bond is almost always required, *Hamlin v. Charter of Township of Flint*, 181 F.R.D. 348, E.D. MI. 1998); in the Eight Circuit a stay may be granted without bond (*U.S. v. Mansion House Redevelopment Co.*, 682 F. Supp. 446, E.D. Miss. 1988); similarly, in the Tenth Circuit a district court has "inherent discretionary authority in setting supersedeas," including waiving requirement for debtors who cannot afford to post bond (*Miami Intern Realty Co. v. Paynter*, 807 F.2d 871, 10th Cir. 1986); in the Ninth Circuit a district court has "inherent discretionary authority in setting supersedeas," with "potential review for abuse of discretion" (*Rachel v. Banana Republic*, 831 F.2d 1503, 9th Cir. 1987); in the Eleventh Circuit bond can be waived in extraordinary cases of financial hardship (*First Financial Bank v. CS Assets, LLC*, 2010 WL 3119077, S.D. Ala. 2010); in the D.C. Circuit judges have some discretion, but the moving but party must objectively demonstrate justified reasons for departing from usual practice of posting full amount (*Athridge v. Rivas*, 236 F.R.D. 6, D.C. Cir 2006); and in the Federal Circuits judges have little discretion, and the bond can only be waived if appellant shows a strong likelihood of success on the merits or showing that appellants would suffer significant financial hardship in absence of stay (*Eon-Net, L.P. v. Flagstar Bancorp, Inc.*, 222 Fed Appx. 970, Fed. Cir. 2007).

[14]295 F. 2d 452 (5th Cir. 1961). In that case, the US Court of Appeals for the Fifth Circuit denied a supersedeas because the parties in question would not have been able to afford to post the bond, which would have been $2 million dollars even though the bonds were meant to stay execution of two separate awards worth $500,000 each. Id. The suits in question were libel suits filed by several public officials who said Abernathy and others (including the New York Times) had libeled them by claiming in periodicals that the public officials, in the Jim Crow South, were carrying out their governmental functions in a racist way. The judgments, in hindsight, are obviously erroneous, but even at the time the size of the awards was ridiculous. The Court concluded that allowing collection to begin on the judgments while the appeal was under way would do no "irreparable damage as would justify injunctive relief" even though it was the poverty of the appellants which disqualified them from the obtaining the bonds. *Id* at 458.

[15]729 S.W. 2d 768, (Tex. App. 1987). In that case, a 10.5 billion dollar judgment was entered against Texaco. *Id.* The Texas supersedeas bond procedure at the time would have required Texaco to post the entire 10.5 billion to stay collection of the lawsuit while the appeal was in process. *See* Doug Rendleman, "A Cap on the Defendants Appeal Bond?: Punitive Damages Tort Reform," 39 Akron L. Rev. 1089, 11061107 (2006). Texaco tried numerous times to circumvent the requirement but was eventually forced to file for

decision in *Bollea v. Gawker Media*, surely competes, with its sensational facts, the case well-illustrates competing considerations behind interlocutory remedies, legal uncertainty and irreparable harm.[16]

Lastly, it is important to emphasize that alternative means of dealing with legal uncertainty and irreparable harms are available to parties. Recall the example above, where legal uncertainty encouraged the seller with a cost of 70 to breach when the buyer's value was 100, notwithstanding perfect expectation damages as the remedy. Let π, where $\pi \in (0, 1)$, be the likelihood of the seller being found legally obligated to perform. Note, first, that if the parties foresee this possibility when contracting *ex ante*, they can write a liquidated damage clause that increases the buyer's expectation remedy

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bankruptcy. *Id.*

[16]913 F. Supp. 2d 1325, 1327 (D. M.D. Fla. 2013). In 2006, Terry Bollea, better known as Hulk Hogan, was secretly filmed during an extramarital affair. In 2012, Gawker, and other defendants in the case, posted excerpts of the video to their website. Bollea commenced an action in the United States District Court of Florida, Tampa Division, alleging, negligent and intentional infliction of emotional distress, violation of the right to publicity under Florida Common Law, and invasion of privacy and publication of private facts. Bollea complained that "[i]f the Video remain[ed] publicly posted and disseminated, it will have a substantial adverse and detrimental effect on [his] personal and professional life, including irreparable harm to both." For these reasons, Bollea moved for a preliminary injunction, which was denied by Judge James D. Whittemore (explaining that "...plaintiff has introduced no evidence establishing that he would suffer irreparable harm in the copyright sense absent preliminary injunctive relief," and that a preliminary injunction would constitute a "prior restraint" in violation of the first Amendment. *Id.* at 1331. Bollea appealed to the 11th Circuit but it was denied. (11th Circ. 12-15959) (Jan 03, 2013).

Following this lost in the federal court, Bollea withdrew his suit and refiled in Florida Circuit Court, adding Heather Clem, the woman in the video, to the suit as well, seeking $100 million in damages. *Bollea v. Clem*, 937 F.Supp.2d 1344. Gawker and Clem tried to get the suit removed back to federal court but were unsuccessful. In Florida Circuit Court, Bolleas motion to temporarily enjoin Gawkers continued publishing of excerpts of the film was granted and Bollea did not have to post a bond. Gawker, however, successfully appealed the ruling in favor of the injunction. Gawker v. Bollea, 129 So.3d 1196, (Fla. Dist Ct. App. 2014). The Florida Court of Appeal, like the District Court that first ruled on the issue, found the injunction to be a "prior restraint" in violation of the 1st Amendment, but the Florida Court of Appeals did not think the previous federal litigation necessitated that conclusion. Id. at 1203 (explaining that "though Gawker Media's arguments are persuasive, [they were] not convinced that a ruling at such a provisional stage in the proceedings should have preclusive effect").

The trial featured a six person jury, comprised of four women and two men. The jury returned a verdict in favor of Terry Bollea for $115 million in compensatory damages and $25 million in punitive damages. Gawker filed two post-trial motions: The first, to set aside the jury verdict, and the second, for a reduction in size of the award. Rolfe Winkler & Steven Perlberg, "Florida Judge Denies Gawker's Motion for New Trial in Hulk Hogan Case," WSJ, May 25, 2016. Both motions were denied. Gawker, unable to afford the $50 million dollar bond to trigger an automatic stay on execution of the judgment was forced to declare bankruptcy. Barbara Ross & Ginger Adams Otis, "Gawker Media granted short stay on $140M Hulk Hogan judgment after filing for bankruptcy," N.Y. Daily News, June 10, 2016. The bankruptcy declaration, ironically, resulted in a stay on execution of the judgment.

by $1/\pi$. This familiar solution offered by the deterrence literature also has familiar problems: parties are often unable to foresee such contingencies; even if they do, the transaction costs of addressing them in the contract are often prohibitive; and even if addressed in the contract, courts are often unwilling to enforce supracompensatory liquidated awards.

Second, as an alternative to *ex ante* contracting, the parties may engage in intermin bargaining. That is, once the relevant contingency arises and the parties recognize that there is some probability $(1-\pi)$ that the seller will not be obligated to perform, they could strike an intermin agreement wherein the buyer agrees to compensate the seller for her performance if she is ultimately found to be excused from performance. Transaction costs, however, may prevent them from undertaking this Coasean bargaining and the interim agreement itself may also be subject to the same kinds of legal uncertainty that motivated its creation. The courts, for instance, may view the agreement as an unenforceable modification.

Third, the seller might perform the contract and rely *ex post* on various existing doctrines to provide her compensation if, and when, it is later determined that she was not obligated to perform. At some point, legal uncertainty always resolves itself, at least with respect to the transaction at hand. There are a number of old and familiar legal doctrines that respond the problem of uncertainty described above. Although these doctrines are typically described in terms of fairness, unjust enrichment and restitution, whatever social conditions long ago gave rise to these ancient forms, such as *quantum meruit* and *quantum valebant*, their survival in contemporary practice (though seldom acknowledged as such) is no doubt related to efficiency. But even these doctrines offer limited recourse when a party voluntarily performs in the face of known legal uncertainty.[17]

3   Model

Take a contract between two parties—a buyer (he) and a seller (she)—where the seller agrees to supply at some future date $\hat{q}$ units of a specified good to the buyer in exchange for p dollars, at date 1. For simplicity, let $\hat{q}$ be 1 unit of an indivisible good and assume that the buyer pays $\hat{p}$ up-front. Assume further that the parties (the buyer, B, and the seller S) are risk-neutral and label their contract k_1, where $k_1 = \{\hat{p}, \hat{q}\}$. Let $v(\hat{q}, r, \cdot)$ and $c(\hat{q}, s, \cdot)$ represent the buyer's value of getting performance under the contract and the seller's costs of completing the contract, where r (s) is a selfish investment that the buyer (seller) can make at date 2 to increase (decrease) the value (cost) of

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[17]Expand..

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performance. Along with investments, the realized state of the world ($\omega \in \Omega$) determines value and cost of performance to the parties. For example, the seller can invest significantly in modernizing her factory (which will lower her expected costs of suppling the goods), but if the realized state of the world is one in which the factory burns down then her actual costs of suppling the goods may be prohibitively high. After investments are undertaken, but before the date of delivery of the goods, the actual state of the world (ω) is revealed to the parties, at date 3, hence they learn their valuations, $v(\hat{q}, r, \omega)$ and $c(\hat{q}, s, \omega)$.

Legal uncertainty is introduced into the model by letting $1 - \pi$, for $0 < \pi < 1$, represent an exogenous likelihood that the seller's legal obligation to deliver the goods under the contract will be avoided. That is, there is some strictly positive probability that the seller will face no legal liability for failure to deliver. The interpretation applied here is one where the parties dispute whether the seller has satisfied her obligations under the contract. Imagine, for example, there is some express or implied exculpatory term in the contract that will release the seller from her obligation to deliver the goods, but the parties do not know with certainty whether the term has been triggered. Assume, however, that all parties share the belief that the court will determine this issue in the seller's favor with probability $(1-\pi)$.[18] At date 4, if the seller announces that she will not deliver the goods because of her belief that she is not so obligated, the buyer may sue for breach and in time the court will order the seller to pay the buyer expectation damages if, and only if, the seller's obligation is not avoided. Alternatively, the buyer may immediately seek a preliminary injunction to compel delivery.

When the buyer seeks an injunction, the court uses the following simple injunctive rule: preliminary injunctions are granted conditional on there being strictly positive probability that the buyer is entitled to performance (i.e., $\pi > 0$) and conditional on the buyer's willingness to post bond equivalent to the seller's expected performance costs, which will be used to compensate the seller if she prevails at the full hearing.[19] Finally, it is assumed

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[18]Endogenous legal uncertainty, where, for example, the seller's delivery obligation may be *excused* based, in part, on the parties' realized values—such as when performance is impracticable or the purpose of the contract has been frustrated—may also be incorporated into the model. The uncertainty is endogenous because the parties, through their (often nonverifiable) investments can affect values, which can determine legal obligations.

[19]The analysis does not turn on the adequacy or inadequacy of ex post compensation by the parties and so we assume that the buyer and seller can satisfy any judgment issued against them by the court. Also the posting of a bond by the buyer is not essential to the model. It is assumed to dispense with concerns of buyer judgment-proofness. Similarly, let's assume that ex post damages paid by the seller will be fully compensatory. Issues of undercompensation are of course significant. If a court is convinced that the buyer is judgment-proof or is otherwise unable to compensate the seller's unobliged performance, then this belief should surely weigh (though not necessarily be determinative) in the court's willingness to grant a preliminary injunction. We avoid this consideration here,

that the court can observe the initial contract and determine when non-delivery of $\hat{q}$ or $\hat{p}$ occurs. The court can also verify observed costs and value, and is therefore able to issue perfectly estimated expectation damages.[20] The figure below illustrates the sequence of events and payoffs. It is assumed throughout that the parties cannot renegotiate. The implications of allowing renegotiation are discussed following the analysis.

4 Analysis

The analysis proceeds in four steps. First, as usual, we establish, the first-best trade and investment benchmarks. Second, we will quickly compare the first-best to the standard formulation where there is no legal uncertainty and depict the familiar results of efficient trade and inefficient investment. Third, we introduce legal uncertainty into the analysis, showing its compromising effects on trade and investment decisions. Finally, we characterize the efficiency gains of the preliminary injunction rule.

4.1 Efficiency Benchmark

The efficient trade (i.e., allocation) and investment decisions are characterized by the following three conditions:

1. The *ex post* trade decision d^+ is determined according to

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\begin{aligned}
d^+(r,s,\omega) &= \operatorname*{argmax}_{d}[v(r,\omega) - c(s,\omega)]d \\
&= \begin{cases} 1 & \text{if } c(s,\omega) \leq v(r,\omega) \\ 0 & \text{otherwise.} \end{cases}
\end{aligned}
\tag{1}
$$

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not because it is unimportant, but to focus attention on the basic efficiency implications of preliminary injunctions aside from its compensatory (and distributional) role.

[20]This assumption is not essential for our purposes. We make it purely for convenience, though we need only assume that the court makes unbiased estimates of the buyer's value. (Kaplow & Shavell, 1996). For simplicity, it is further assumed that all court-related expenses are zero other than the costs of verifying r and s, which are, by assumption, infinitely costly to verify.

2. The *ex ante* investment decision requires that the buyer invests $r^\star$ and the seller invests $s^\star$, where

$$r^\star, s^\star \in \operatorname*{argmax}_{r,s} \int_{\{\omega|v(\cdot)\geq c(\cdot)\}} [v(r,\omega) - c(s,\omega)]dF(\omega) - r - s. \qquad (2)$$

3. Investment $r^\star$ and $s^\star$ maximize the net expected gains from trade, which gives us the first-best trade decision function:

$$
\begin{aligned}
d^\star(r^\star, s^\star, \omega) &= \operatorname*{argmax}_{d}[v(r^\star,\omega) - c(s^\star,\omega)]d \\
&= \begin{cases} 1 & \text{if } c(s^\star,\omega) \leq v(r^\star,\omega) \\ 0 & \text{otherwise.} \end{cases}
\end{aligned} \qquad (3)
$$

4.2 Expectancy Measured Against the First-best

When estimated with sufficient accuracy, the expectation damage remedy produces allocatively efficient outcomes, but leads to inefficient investment. This claim, however, requires certainty with regard to legal liability. To see this, assume $\pi = 1$, which is to say that the buyer will prevail with certainty if the seller does not deliver the good. The seller will therefore perform when

$$
\begin{aligned}
\hat{p} - c(s,\omega) &\geq \hat{p} - v(r,\omega) \\
v(r,\omega) &\geq c(s,\omega),
\end{aligned} \qquad (4)
$$

which satisfies the allocative efficiency requirement. The buyer, however, will overinvest under this remedy, as can be seen in the expression below, where r_{ED} represents the buyer's investment under expectation damages:

$$r_{ED} \in \operatorname*{argmax}_{r} \underbrace{\int_{\{\omega|v\geq c\}} v(r,\omega)dF(\omega)}_{\text{seller performs}} + \underbrace{\int_{\{\omega|v<c\}} v(r,\omega)dF(\omega)}_{\text{buyer gets damages}} - r \qquad (5)$$

The first term of expression 5 shows the buyer getting valuation (v) from the seller's performance and the second terms shows the buyer getting the same valuation (v) from expectation damages. The buyer overinvests (i.e., $r_{ED} > r^\star$) since he gets $v(r,\omega)$ in every state of the world, whereas efficiency requires that investment is discounted by the likelihood that performance will be efficient.

Consider next the seller's investment decision. The buyer's overinvestment under the expectation damages regime will expand the states of

the world where trade is efficient (since $v(r_{ED}) \geq v(r^\star)$), leading the seller to perform more often than she would under the strictly first-best scenario. Therefore the seller's investment s_{ED} will also be excessive:

$$s_{ED} \equiv \operatorname*{argmax}_{s} \int_{\{\omega | v(r_{ED}) \geq c(\cdot)\}} -c(s, \omega) dF(\omega) - s, \tag{6}$$

which implies that she will invest inefficiently (i.e., $s_{ED} \geq s^\star$).

4.3   Adding Legal Uncertainty

Consider now the effect of legal uncertainty on the standard formulation. Assume that the buyer will *not* prevail with certainty if the seller does not deliver the good: $\pi < 1$. Adding legal uncertainty generates the following.

PROPOSITION 1 *With legal uncertainty, expectation damages no longer assure efficient trade and any investment level, including the first-best, is possible.*

Proof: It is straightforward to show that with legal uncertainty, even perfectly estimated expectation damages will not necessarily lead to efficient trade. The seller delivers the goods only when the gains from such performance exceeds or equals her payoff from nonperformance:

$$
\begin{aligned}
\hat{p} - c(s, \omega) &\geq \hat{p} - \pi \cdot v(r, \omega), \\
\pi \cdot v(s, \omega) &\geq c(s, \omega).
\end{aligned}
\tag{7}
$$

which does not satisfy the allocative efficiency requirement. The seller, avoiding legal liability for non-delivery with strictly positive probability, will not efficiently allocate the goods in every case. As a consequence, she will also have reduced incentives to invest:

$$\tilde{s}_{ED} \in \operatorname*{argmax}_{s} \pi \cdot \int_{\{\omega | v(\cdot) \geq c(\cdot)\}} -c(s, \omega) dF(\omega) - s, \tag{8}$$

Yet, given that overinvestment by the buyer will lead the seller to invest excessively (relative to first-best), some reduction in the seller's incentive to invest as a consequence of legal uncertainty may coincidentally produce efficienct investment incentives for the seller.

A similar argument applies to the buyer. As the expression below indicates, the standard overinvestment result for the buyer is abated to varying degrees in the presence of legal uncertainty.

$$\tilde{r}_{ED} \in \operatorname*{argmax}_{r} \underbrace{\int_{\{\omega|\pi \cdot v \geq c\}} v(r,\omega)dF(\omega)}_{\text{seller performs}} + \pi \cdot \underbrace{\int_{\{\omega|\pi \cdot v < c\}} v(r,\omega)dF(\omega)}_{\text{buyer gets damages}} - r. \quad (9)$$

Since $\pi < 1$ it follows that $\tilde{r}_{ED} \leq r_{ED}$ and that $\tilde{r}_{ED} \leq r^{\star}$ for $\pi \to 0$.   *qed.*

Legal uncertainty deprives the buyer of his expectation of receiving $v(r,\omega)$ in every states of the world. Specifically, when the seller does not perform, the buyer receives $v(r,\omega)$ with only probability $\pi < 1$. The buyer may still overinvest, though not as much as with legal certainty. It is also possible that the buyer will underinvest, particularly in an environment of significant legal doubt as to whether the seller will be held liable for non-delivery. The buyer's incentive to underinvest given doubt about the seller's liability may even perfectly offset his incentive to overinvest given an expecatation remedy that is increasing in his investment, leading to first-best investment.

4.4   Efficiency of the Preliminary Injunction

We now consider how the availability of a preliminary injunction affects both allocative and investment efficiency in a context of legal uncertainty. Recall that legal uncertainty leads the seller to nonperformance too often, dispite having to pay perfectly estimated excpectation damages to the buyer. The seller's weighing of the cost and benefit of nonperformance is distorted as she discounts cost by the likelihood that she will be legally liable for nonperformance, performing only when $\pi \cdot v \geq c$, which departs from the allocative efficiency requirement calling for performance when $v \geq c$. As the following proposition establishes, the preliminary injunction restores allocative efficiency.

PROPOSITION **2** *When the seller announces nonperformance, the buyer will compel performance if, and only if, performance is efficient.*

Proof: Assume the seller inefficiently selects nonperformance. The buyer will compel the seller's performance if the expected value of his remedy (i.e., $\pi \cdot v(r,\omega)$) is weakly less than his value from performance minus the

expected costs of having to compensate the seller (if it is determined after the full hearing that the seller's performance was not obligated):

$$
\begin{aligned}
\pi \cdot v(r, \omega) &\leq v(r, \omega) - (1 - \pi)c(s, \omega) \\
(1 - \pi)v(r, \omega) &\geq (1 - \pi)c(s, \omega) \\
v(r, \omega) &\geq c(s, \omega). \qquad\qquad qed.
\end{aligned}
$$

The buyer compels performance under the preliminary injunction only when it is efficient to do so, therefore correcting the allocative efficiency distortion created by legal uncertainty. The preliminary injunction also corrects the buyer's incentive to underinvest given legal uncertainty

PROPOSITION **3** *The combination of (i) legal uncertainty along with (ii) the availability of preliminary injunctions provides better investment incentives for the buyer than in the absence of both, while the seller's investment incentives remain ambiguous.*

Proof: Recall from expression 5 that the buyer overinvests (i.e., $r_{ED} \geq r^{\star}$) in the absence of legal uncertainty. Let $\bar{r}_{ED}$ represents the buyer's investment with legal uncertainty and the availability of preliminary injunctions (the 'bar' superscript on r indicating the availability of preliminary injunctions). The buyer's chosen investment, $\bar{r}_{ED}$, is derived from the following,

$$
\bar{r}_{ED} \in \underset{r}{\arg\max} \quad \underbrace{\int_{\{\omega|\pi \cdot v \geq c\}} v(r, \omega)dF(\omega)}_{\text{seller performs}}
$$

$$
+ \quad \underbrace{\int_{\{\omega|\pi \cdot v < c \leq v\}} [v(r, \omega) - (1 - \pi)c(s, \omega)]dF(\omega)}_{\text{injunction issues}}
$$

$$
+ \quad \pi \cdot \underbrace{\int_{\{\omega|v < c\}} v(r, \omega)dF(\omega)}_{\text{buyer gets damages}} - r. \qquad (10)
$$

The three terms on the right-hand-side of expression 10 represent the discrete possible outcomes that the buyer faces. The first two terms show that buyer will receive $v(\cdot)$ through performance—either because the seller willingly performs (the first term) or because performance is compelled by the preliminary injunction (the second term)—while the third term shows that the buyer will receive $v(\cdot)$ through expectation money damages, but only with probability π. Observe that the buyer's gross payoff in the second term (where the preliminary injunction issues) is reduced by $(1 - \pi)c(s, \omega)$ since the buyer must pay the seller's costs of compliance with the injunction, $c(s, \omega)$, when the seller is ultimately found not legally obligated, which

14

occurs with probability $(1 - \pi)$. Yet since the buyer is assured performance whenever performance is efficient he will have no incentive to underinvest. At the same time, the legal uncertainty associated with his ability to collect expectation damages reduces his incentive to overinvest. The buyer's incentive to invest efficiently improves as $\pi \to 0$.

Finally, the seller, being able to avoid legal liability for non-delivery with strictly positive probability, will chose $\bar{s}_{ED}$ from

$$\bar{s}_{ED} \in \underset{s}{\operatorname{argmax}} \, \pi \cdot \int_{\{\omega | v(\bar{r}_{ED}, \omega) \geq c(\cdot)\}} -c(s, \omega) dF(\omega) - s, \qquad (11)$$

which, shown in the proof of PROPOSITION 1, implies she may over, under or optimally investment. *qed.*

Even when compelled to perform by way of a preliminary injunction the seller will avoid the costs performance with likelihood $(1 - \pi)$, so legal uncertainly will continue to reduce her investment incentives despite having to perform whenever performance is efficient. The seller does not always pay the cost of performance when performance is efficient and therefore she does not invest as though she must pay those costs. Still, the seller's investment incentive is indirectly effected through the buyer's investment choice. Because legal uncertainty along with the availability of preliminary injunctions improves the buyer's investment (compared to legal certainty without preliminary injunctions), his investment will not expand the states of the world where ex post performance is efficient to the degree observed with legal certainty. Nonetheless, the buyer overinvests so long as $\pi > 0$, which encourages some additional investment by the seller, albeit not as much as in a world of legal certainty. It remains ambiguous, however, whether these offsetting influences on the seller's investment decision will improve overall investment incentives. For the buyer, the preliminary injunction provides better investment incentives. The reason for this is that the buyer discounts investment by the joint likelihood (i) that performance is inefficient and (ii) that the seller will prevail at the final hearing. Hence, the buyer does not overinvest to the extent he would under the assurance of expectation damages with certainty,[21] nor does he underinvest as he might in a world with significant legal uncertainty since he is always assured performance, through the preliminary award, when it is efficient.

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[21] Now the buyer takes into consideration that in some states of the world, he will neither receive the good or be fully compensated.

4.5 Endogenous Avoidance

Our analysis has proceeded on the premise that the seller's probability of success on her non-performance defense is exogenously determined. While this treatment is consistent with some stated legal principles,[22] it is certainly possible, for instance, that a seller may influence her costs in an unverifiable manner that might contribute to an impracticability claim of excused performance.[23] Though we will not pursue a thorough discussion here, note the importance of this endogeneity.

When investments are unverifiable, the effect of endogenizing legal uncertainty may be partially captured by allowing the chance of avoidance $(1 - \pi)$ to be a function of the seller's investment, where $P(c(s, \omega))$ would be the probability that the seller's avoidance (impracticability) claim fails following a full hearing on the merits. Some conclusions may be drawn by assuming that $\pi(\cdot) = 1$ for all $c \leq \hat{p}$ and otherwise $0 < \pi(\cdot) < 1$ (where $\hat{p}$ is assumed independent of v) and by letting $\partial\pi(\cdot)/\partial c \leq 0$, and $\partial^2 P(\cdot)/\partial^2 c \geq 0$. Given these restrictions, the buyer's allocation (via preliminary injunctions) and investment decisions are qualitatively the same as that observed in the prior sections, as is the seller's allocation (breach) decision. However, the seller's investment decision is compromised because of the moral hazard she now faces.[24] The seller now chooses her investment ($\bar{s}_{ED}$) according to the follow:

$$\bar{s}_{ED} \equiv \operatorname*{argmax}_{s} \int_{\{\omega|\hat{p}\geq c\}} -\pi(c, s, \omega)c(s, \omega)dF(\omega) - s. \tag{12}$$

Recall that $c(s, \omega)$ is decreasing in s, hence $\pi(c, s, \omega)$ is increasing in s. This implies that the seller will have incentive to reduce her investment relative to what she would have chosen when the legal uncertainty was exogenously determined. On the other hand, in practice courts are probably more likely to grant an excuse to sellers who invest heavily in precautions, and less likely

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[22]Cite Restatements (1st, 2nd) which emphasizes unanticipated and UCC's treatment too. Cite cases suggesting that seller's excuse fails when she is responsible for her high costs.

[23]That is, a claim that she is not obligated to perform because her realized costs of performance are such that it would be impracticable to perform and she ought not be held liable for this realization. Much has been written on this doctrine. See Richard A. Posner and Andrew M. Rosenfeld, Impossibility and Related Doctrines in Contract Law: An Economic Analysis, 6 J. LEGAL STUD. 83 (1977); Paul Joskow, Commercial Impossibility, the Uranium Market, and the Westinghouse Case, 6 J. LEGAL STUD. 119 (1977); Jeffrey M. Perloff, The Effects of Breaches of Forward Contracts Due to Unanticipated Price Changes, 10 J. LEGAL STUD. 221 (1981); Christopher Bruce, An Economic Analysis of the Impossibility Doctrine 11 J. LEGAL STUD. 311 (1982); Michelle J. White, Contract Breach and Contract Discharge Due to Impossibility: A unified Theory, 17 J. LEGAL STUD. 353 (1988).

[24]Alan O. Sykes, The Doctrine of Commercial Impracticability in a Second-Best World, 19 J. LEGAL STUD. 43 (1990), explicitly deals with moral hazard in this context.

to grant an excuse to sellers who had taken relatively little care. Hence a full model of endogenous legal uncertainty, may predict ambiguous effects on the parties' investment incentives. Such a model is beyond the scope of this paper.

5 Discussion

Legal uncertainty is pervasive. Legal uncertainty with respect to contractual entitlements comes about because of ambiguity over the terms of agreements, the law, and the state of nature. Recall the timeline highlighting the salient contractual moments in Figure 1. Even though parties often believe, at date 1, that they have executed legally binding agreement, there a number reasons why they may be unable to enforce those agreements at date 5. These reasons may be placed under the general heading of avoidance, by which we mean one or both parties may be able to avoid having a legal duty to perform or pay damages for failure to perform. The most basic forms of avoidance are rooted in claims that the initial agreement was not properly formed or created.[25] On the other hand, the contract may have been properly formed, but at date 5 a party may be able to get the court to excuse her obligation to perform.[26] There are also several other doctrines that will allow parties to avoid performance of contracts, such as unconscionability, illegality, and contracts that the court considers to be against public policy.

Uncertainty characterizes virtually all decision-making. Both the costs of taking some action in the future and the benefits which will result from taking the action depend on the state of the world which obtains when the action is taken. Legal remedies are designed to respond to uncertainty in two ways. Ex ante, expected value should be maximized by taking appropriate account of the probabilities that various states of the world will obtain when the action is taken. Ex post, the objective is to have the action taken only when, in the state of the world which obtains, benefits exceed costs.

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[25]Claims of this sort are referred to as formation defenses, and they generally maintain that something went wrong when the contract was being formed. For example, the parties didn't mutually assent or have an intent for the agreement to be legally enforceable; or one party may claim that the other party isn't really obligated so she shouldn't be either (i.e., mutuality of obligations); or there wasn't valid consideration for one promise; or the offered promise didn't have a proper acceptance, or there was no offer to accept because it was withdrawn, revoked, otherwise destroyed or never existed. These are very basic challenges to contract formation. A whole other set of formation defenses involves assertions that one or both parties didn't legally consent to the agreement (e.g., infancy, incompetency, duress, nondisclosure, misrepresentation, fraud, undue influence, necessity, economic duress, and contract of adhesion).

[26]There are a number of excuse doctrines that will allow a party to avoid performing, including impossibility, impracticability, frustration of purpose, unilateral mistake and mutual mistake.

The key insight here is that there are two types of uncertainty, which interact in an important and non-obvious way, which need to be taken into account in fashioning appropriate remedies: 1) It is uncertain what the costs and benefits of an action will be; 2) it is uncertain who will have to bear the costs of taking or not taking the action in various states of the world. With few notable exceptions, legal scholarship has ignored the second type of uncertainty: what may be fairly characterized as legal uncertainty.

In the world of legal certainty, assumed by most(though not all) scholars in this area,[27] there will be excessive investment by obligees to increase the value of performance. Legal uncertainty decreases the value of such investment and thus counteracts the tendency to overinvestment. However, the magnitude of the diminution in value may constrained by interlocutory remedies, including the preliminary injunction, which, under the simple rule proposed here, affords the buyer performance whenever it is efficient.

6   Conclusion

In our discussion of the issue of legal uncertainty, Warren made the following observations, with which I shall close: The generality of the findings here can be shown by reference to the Coase Theorem. Coase (1960) quite famously illustrated the argument underlying his claim using a fictitious dispute between a rancher (with cows), who infringes on the property of a neighboring farmer (with corn). The analysis supporting the Coase Theorem assumes legal certainty. Either the rancher is liable or she is not. Moreover, both parties know whether she is liable. Suppose, however, that it is uncertain whether the rancher is liable. It is true that there are a range of mutually beneficial agreements which could be arranged, taking the legal uncertainty into account. Such an agreement would, however, not eliminate legal uncertainty. The Coasean agreement itself is subject to legal uncertainty. Whether the agreement requires the farmer to pay the rancher to

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[27]Exceptions include, for example, Craswell and Caffe (1986) and Goetz, who independently developed an analysis of how uncertainty, as to how much care a potential injurer would have to take in order to be held not to have been negligent. They posit a probability distribution of the amount of care which the potential injurer will be held to have to take the escape liability. Their key insight is that taking care creates two beneficial consequences for a potential injurer: 1) the total amount of expected harm is reduced and 2) the probability that the injurer will be held to be negligent is also reduced. This analysis leads to the conclusion that the injurer may take too much care in response to the possibility that a judge or jury requiring more than what is really optimal care may be assigned the case. Brady and Kahan demonstrate that this conclusion must be qualified. They argue (persuasively, in our view) that the effect of legal uncertainty on incentives to take care depends on the causality rule which is applied. The relevant literature is reviewed in W. Schwartz, Legal Error International Encyclopedia of Law and Economics.

reduce the number of her cows or the rancher to pay the farmer for the corn consumed by her cows, if performance is sequential, one party may have to invoke a legal remedy to compel performance (or its monetary equivalence) by the other. If there is legal uncertainty as to whether the remedy will be granted, the Coasean bargain will have to take this uncertainty into account. There is, moreover, likely to be such uncertainty in every instance in which performance by the parties is not simultaneous. Suppose, for example, it is agreed that the rancher will reduce the size of her herd. Assume further that, prior to the time, at which the reduction is to occur, the price of beef greatly increases and the price of corn greatly decreases. As a result, the loss of value in decreasing the size of the herd is much greater than the benefit of having less corn destroyed. It is certainly possible that the excess of cost over benefit will be so great that a court will find performance of the rancher's obligation to reduce the size of her herd "impracticable" so that the rancher need not perform.