1 Introduction

That law is necessarily incomplete is an old truth whose implications have become clearer in the light of economic analysis. Putting pressure on the gaps in the law is the phenomenon of opportunism explored in depth by Oliver Williamson. In this Element, we resurrect another old notion related to the law's incompleteness – equity as a safety valve on the law – and show how it can be seen as part of the law's response to the problem of opportunism.

Both within law and economics, and more generally, responses to opportunism tend to paint with a broad brush. Formalists emphasize the need to be clearer about what constitutes bad behavior and to give effect to parties' directions to courts, while contextualists see the need for flexibility to respond to clever strategies for taking advantage of other actors. This debate is particularly stark in contract theory, where the question is whether parties are always in a better position than courts to anticipate and deal with the problem of opportunism, either through more detailed contractual provisions, through asset ownership, or through hierarchical organization.

These strands of the literature do not consider that it may be sensible to employ both formal and contextual approaches simultaneously and to structure and deploy these approaches selectively depending on the circumstances. Decision modes that go under the headings "law" and "equity"– especially prior to the merger of the separate courts of law and equity – provide an example of this approach. Equity, in the sense of equitable principles and remedies, modifies the applications of and supplements – "corrects" – the general, regular law when it has seriously gone off the rails, something one can term "meta-law" (Smith 2021). Among the problems of complexity and uncertainty that such intervention can address is opportunism, and equity provides a very general and venerable mechanism that is deployed selectively – as a "safety valve"– to deter opportunism (Smith 2011, 2017). We do not claim that discouraging opportunism is the exclusive justification for a contextual mode of decision-making or was the only function of equity. Nor do we argue that the law's efforts at countering opportunism were ever the exclusive province of equity. Instead, we model the safety valve function that was a major theme of equity and remains a major justification for departures from formalism.

Key to understanding the functional role that equity can (and often did) play is the need to discourage the types of opportunism emphasized in the work of Oliver Williamson. Williamson (1985, 47) defines opportunism as "self-interest seeking with guile." Equity traditionally focused on deception, often deceit that fell short of provable fraud. As earlier commentators realized, the

problem with opportunism is that it is wealth-destroying but hard to foresee in its particulars, making it difficult to specify *ex ante*. On the other hand, reserving a large amount of discretion to define it *ex post* tends to chill behavior by innocent actors and to destabilize expectations that the law is supposed to foster. Essential to the distinction between opportunists and non-opportunists is an information asymmetry. In particular, the opportunist knows so much about the legal structure they face that they can take unintended and hard-to-foresee advantage of it.[1]

We present a simple contracting model that captures the role of equity as a safety valve to discourage opportunism. From a contract theory perspective, a novel aspect of our model is distinguishing opportunistic from non-opportunistic actors when all parties are self-interested. In our model, non-opportunistic buyers of a good (whom we call "garden-variety" buyers) have imperfect information about their rights under a contract after the good is delivered. Garden-variety actors observe the overall quality of the delivered good and thus have a credible threat to sue when overall quality is below contracted quality. But these actors must incur an investigation cost to match the precise characteristics of the delivered good to their entitlements under the contract. These investigation costs might arise *ex post* because garden-variety actors are "satisficing" actors who do not expect to litigate and hence do not invest in understanding and remembering the precise details of their contracts. If this investigation cost is high enough, technical breaches by sellers can go uncompensated. In our model, when technical breaches are not compensated, this can create beneficial welfare effects. They give sellers a greater incentive to make efficient, non-contractible substitutions in states of the world where technical compliance with the contract is inefficiently costly.

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[1] More detailed contracts or legal rules are unlikely to be effective against such opportunism: As noted by Masten (1988, 182–183):

> While opportunism and moral hazard are similar in that both assume that actors look first to their own self interest, opportunism is more ingenious, active, and likely to provoke strategic responses by other parties than the type of noncooperative behavior assumed in agency models. Transactors are characterized by their cleverness, to the point of deviousness, in circumventing rules, discovering loopholes, or otherwise exploiting strategic advantages. Using contracts to try to induce cooperative behavior from an uncooperative actor is like trying to pick up mercury; every provision stipulated or contingency appended just creates another source of contention open to various interpretations and is thus subject to manipulation in court.

> The flexibility and dynamism of opportunists require a flexible response of the sort embodied in equity.

We show, however, that a "substantive compliance" equilibrium between sellers and garden-variety buyers can be undermined by the presence of opportunist buyers. We see opportunists as distinct from garden-variety actors in the degree to which they are prone to take advantage of the incompleteness of the law. In our model, opportunists are agents who are fully aware of their legal entitlements and are willing to exploit them to their full advantage *ex post*. We model the difference between opportunist and garden-variety actors as one of legal sophistication, as opposed to morality, but our results would apply as well if all actors had equivalent knowledge but garden-variety actors were reluctant to exploit loopholes for moral or reputational reasons. In any case, even if a seller substantively complies with a contract by providing the agreed-upon quality, opportunists will sue on any technical breaches that occur. The damages paid by sellers to opportunist buyers introduce a transfer from garden-variety buyers to opportunist buyers in equilibrium, with two potential welfare costs. First, it may cause garden-variety types to contract for inefficiently lower quality to avoid subsidizing opportunists. Second, it might result in inefficient overconsumption by opportunists, even if garden-variety types continue to contract for high quality.

In this framework, an equitable intervention that allows sellers to avoid penalties by demonstrating substantive compliance can improve welfare. But the availability of this anti-opportunism device creates scope for a different type of opportunism by the sellers it seeks to protect. In particular, opportunist sellers might provide low quality and seek to avoid damages by invoking equity. We show that the costs of this kind of opportunism can be mitigated by using equity only as a "safety valve": equity should be applied by judges to protect sellers only when the judge is sufficiently certain that the buyer is an opportunist. We offer some intuitive comparative statics regarding the optimal expansiveness or restrictiveness of equity.

We believe these comparative statics are broadly consistent with casual observations of the use of equity in various areas of law. For example, our application of the model to patent law suggests that an increased likelihood that patent infringement claims are being brought by patent trolls should make courts more likely to refuse to issue injunctions and to simply assess monetary damages in close cases. Thus one might do time-series or panel studies across industries, comparing some measure of the prevalence of troll-like infringement with the likelihood of obtaining injunctive relief.[2]

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[2] For descriptive results showing that patent assertion entities (loosely trolls) do not fare well in litigation, see Allison, Lemley, and Schwartz (2017). As we note in Section 6.2, how well the courts are targeting opportunists in this context is somewhat clouded by the US Supreme

Another area of law where casual empiricism is consistent with our theory is
the field of insurance, where legal doctrine has evolved in response to concerns
that insurers use formal rules opportunistically to deny coverage. Courts can
attempt to cabin such opportunistic formalism using doctrines such as *contra
proferentem*, which holds ambiguous provisions against the insurer/drafter to
prevent abuse of unclear contract terms. However, as described in the recently
promulgated *Restatement of the Law of Liability Insurance*,[3] courts limit use of
contra proferentem by suggesting it does not apply when the insured would not
reasonably expect coverage – that is to say that this equitable intervention is
not available when it appears to the court that it is being used opportunistically.

We will proceed as follows: Section 2 situates our work in relation to the
extant literature. In Section 3, we begin with a simple, stylized contracting
model between a buyer and a seller that illustrates the problem of opportunism.
We show that equitable intervention may be useful but only when applied as a
"safety valve" against those buyers that appear to be acting opportunistically. In
Section 4, we enrich the stylized model to generate some intuitive comparative
statics about the optimal degree of expansiveness of equity. Section 5 analyzes
patents and fraudulent transfers as potential applications of the model. Section 6
connects our work with insights from transaction cost economics. Section 7
concludes the Element.

2 Related Literature

Our model differs from the standard picture of *ex ante* contracting to bind
parties and thereby make possible mutually beneficial sets of actions. Some
elements of our safety valve model resonate with strains of the contracting
literature emphasizing vague standards, the role of opportunism, and fault in
contract law.

Vague standards have received attention from a well-developed literature
comparing the desirability of formal rules to flexible standards applied
to general legal questions. Works such as Ehrlich and Posner (1974) and
Kaplow (1992) have generally focused on the efficiency trade-off between
rules, which are easy to administer but inflexible, and standards, which require
skill and judgment to administer but can efficiently respond to factors that were
not contemplated *ex ante*. Vague standards can raise parties' costs and chill
legitimate behavior. Scott and Triantis (2006) argue that contractual parties

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Court's opinion in *eBay* v. *MercExchange*, 547 U.S. 388 (2006). It is hard to tell how the Court's
opinion is operationalized, especially as to how disproportionate hardship works and whether
notions of good faith are in play (see Gergen et al. 2012).

[3] See *Restatement of the Law of Liability Insurance* §4(2) (2018).

make a similar trade-off when they incorporate vague terms in contracts, although Choi and Triantis (2008, 2010) show that the costs of using standards can serve to commit the parties and send effective signals by making *ex post* verification more costly. Friedman and Wickelgren (2014) look at how loose standards as opposed to formal rules may allow decision makers to respond to private information known only to the parties.

Carmine Guerriero (2020) constructs a model that suggests that when transaction costs are higher, or information asymmetry is greater, weaker property rights are socially desirable. In a cross-country analysis, he provides empirical evidence that suggests property rights tend to be weaker in the presence of higher transaction costs. Because weaker property rights tend to lead to more contextual and flexible resolution of legal disputes, we can see them as a form of equity, so these results are consistent with our prediction that more use of equity is desirable in the presence of increasing contractual incompleteness.

At the same time, there is a strand of contract theorizing that emphasizes the possibility of opportunism by contractual parties (see, e.g., Cohen 1992; Kostritsky 2007; Muris 1981). Opportunism is hard to define, but it is a cousin of fraud. The common theme in the opportunism literature is the ability of parties to misuse the contract and to commit deception that comes close to qualifying as fraud or is fraud that is too hard to prove under normal evidentiary presumptions (cf. Epstein 1975). This is actually a view that was prevalent in the nineteenth century and is close to the notion we employ in our analysis.[4] The opportunism literature is also open to the controversial notion of fault in contract law and is more oriented toward enforcement and sanctions than is mainstream law and economics (Cohen 2009). Not coincidentally, outside of law and economics, there is a deontological tradition in contract theory that likewise casts contractual behavior in terms of wrongs like promise-breaking and characterizes certain breaches as misappropriation requiring sanctions rather than prices (compare Friedmann [1989, 12] and Shiffrin [2007] with Kaplow and Shavell [2002, 172–213] and Shavell [2009]). Emblematic – but only emblematic – of some of these fissures in contract theory is the old debate over efficient breach. Although not all law and economics analysis points in the direction of efficient breach theory, the use of the language of fault and the

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[4] On the nineteenth-century view that unconscionability referred to fraud that could not readily be proved, see, for example, *Seymour* v. *Delancey*, 3 Cow. 445, 521–522, 15 Am.Dec. 270 (N.Y. Sup. 1824) ("Inadequacy of price, unless it amount to conclusive evidence of fraud, is not itself a sufficient ground for refusing a specific performance of an agreement") (citing cases); Gordley (1981, 1587).

characterization of breach as a wrong that should not be priced are outside the mainstream of law and economics.

Related to notions of opportunism is the question of fault in contract law. Indeed, one method of dealing with opportunism is to define it as a wrong and to hold parties liable. In fact, acting opportunistically can be regarded as an egregious example of fault (willful rather than negligent). Or the response can be remedial, in which a pattern of behavior that one could label "willful" breach is used to get at undetectable bad behavior by "nasty" types, in a fashion reminiscent of theories of punitive damages based on the difficulty of detection (Bar-Gill & Ben-Shahar 2009). These works have generally focused on an *ex ante* choice of which modality would be applied to a particular class of cases or issues and do not suggest using different modalities for different litigants in similar situations, especially keyed to evasionary behavior itself. In contrast, our work is intended to serve as an explanation for why it might be desirable to modify the application of formal rules in scenarios where they might otherwise be efficient, based on the perception that a litigant is acting with guile, rather than ordinary self-interest.

Stremitzer (2012) considers a model in which buyers may be able to refuse delivery on the grounds of technical breach. Stremitzer's model finds that allowing (strategic or opportunistic) rejection for quasi-formalistic reasons can induce sellers to share rents in order to prevent inefficient cancellation of contracts. However, that paper is more focused on the distributional consequences of allowing inefficient remedies and is not aimed at exploring the interaction between equity and formalism, nor opportunism per se. As a result, the paper does not address when more flexible interpretations of contracts are superior.

In the following sections, we will develop a model of the equitable safety valve based on asymmetric information. In our model, all people are rational actors with varying amounts of information. Hence, for us, the problem in opportunism has much to do with levels and types of foreseeability. Opportunism of the sort we are interested in manifests in "loophole seeking" and the exploitation of "snags." The opportunist attempts to use the letter of the law to achieve objectives that are inconsistent with the law's purpose and in doing so creates net social costs (Smith 2021, 1050). In our model, some people (opportunists) have high levels of information about whether contractual performance (or by extension other relevant assets and activities) conform to the letter of the law even if they fully serve the law's purpose. The opportunists have an informational advantage over others (garden-variety) who holistically know that the purpose of the contract (or other law) has been served but find it too costly to find out whether the letter of the contract or law has

been followed to a "T", or find it too costly to sue for the technical divergence. Because of the opportunist's superior information, it will be difficult and sometimes not cost-effective for contractual parties or policy makers *ex ante* to devise specific solutions aimed at specific forms of opportunism.

In Section 6, we return to the issue of deception and foreseeability in opportunistic behavior and argue that the problem is more dire and the solutions need to be more stringent, and more likely mandatory, if the opportunism is radically unforeseeable, in that the form it takes is a matter of (unquantifiable) uncertainty rather than (quantifiable) risk.

Our safety valve model of equity carries the potential to reconcile these strands of contract theory. Let us return to the definition of opportunism. The problem with some definitions of opportunism is that they are so broad that intervention would potentially be routine. For example, if we define opportunism as acting against the other party's expectations but within the letter of the contract (Muris 1981, 521), we still need to know how the expectation arose. Or, if opportunism is defined as acting "contrary to the parties' agreement, contractual norms, or conventional morality" (Cohen 2009, 1454), then it suffers from the breadth and indeterminacy of the open-ended appeal to moral intuition that irked the common law lawyers in their critique of equity. The opportunism literature has come under criticism for not paying attention to the parties' ability to choose methods of dealing with opportunism (see, e.g., Craswell 2009; Scott 2009, 2015). Particularly problematic are definitions that leave little scope for contracting parties to combat opportunism on their own. Thus, identifying opportunism with unfairness writ large or defining it as taking any advantage of the vulnerability of the other party, or as acting contrary to the other party's expectations, all point to a very wide notion of opportunism. Unfairness, vulnerability, and unilateral expectations allow courts to intervene in the ways that the new formalists find objectionable.

To return to Williamson's definition of self-interest seeking with guile (Williamson 1985, 47; 1993, 97), we need a definition of guile. Is all strategic behavior bad? Sometimes the law anticipates that people will shade the truth, and it reflects a judgment that it is common knowledge that one should not rely on certain representations literally. Thus, commercial "puffery," as where a car dealer says that no one is ever dissatisfied with a certain model, is not actionable fraud even if it is not true.[5] Likewise, the law often protects private information.

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[5] It appears that the law does not categorically give priority to preventing opportunism over internalizing the effects of negligence (as argued by Cohen 1992); nor does it generally put the onus on the victim of deception not to be too vulnerable (Goldberg 1989, 71). Indeed, equity protects "ninnies" (Rose 1988, 588; Smith 2011) and "fools" (Pound, quoted by Cohen 1992), but as many have noticed in connection with doctrines like unconscionability, the focus is on

8   *Law, Economics and Politics*

Thus, if someone does research and believes an asset is worth more than its market price, that person can buy the asset without revealing the information (see, e.g., Kronman 1978, 9–18). (The law has been ambivalent about people buying old masters at garage sales or oil-rich land from unsuspecting farmers. Protecting people from themselves and making them more willing to transact has to be balanced against their potential carelessness and the need for potential buyers to be able to appropriate the returns of developing information.) Perhaps the reason why Williamsonian guile and traditional notions of near-fraud suggest deception is that opportunism brings together two elements involved in classic deception: unexpectedness (on some level) and advantage-taking.

More promising is to define opportunism in the contractual setting as a special case of opportunism that gets past other devices for dealing with it. Opportunism in general appears to contain an element of deceit because the opportunist takes unanticipated or unintended advantage of the law to the detriment of others (and likely also social welfare), because the opportunism cannot be cost-effectively defined or prevented beforehand (Smith 2021, 1079.) In the contractual context, its unanticipated or unintended nature takes the behavior out of the shared contemplation of the parties but perhaps not out of the plans of the opportunist (if the opportunism is *ex ante*). In our model, the opportunist takes advantage of unusual knowledge about gaps in the contract or in the law. So, opportunism is using the law (or contract) in a way that it is not intended and can at most be anticipated in a general (and behavior-distorting) sense. The understanding that counterparties will sometimes use the imprecision to their advantage reduces the seller's incentive to act efficiently.

Our focus in this Element is on the optimal contours of equity: why it should be applied against opportunistic actors in particular, why it should be applied only sparingly, and when it should be more or less expansive. As such, we do not offer a new explanation for why equity should be mandatory. Mandatory rules have been justified on grounds such as eliminating socially wasteful signaling (Aghion & Hermalin 1990) and bounded rationality. Likewise, asymmetric information about types can inhibit socially efficient investments in completing contracts (Spier 1992). A further argument in favor of mandatory rules in the context of opportunism is that choices of contract terms can make exploitation of the naive more profitable (Friedman 2013). Those who distrust these explanations can read our analysis more conservatively as providing the contours of optimal default rules, from which sophisticated parties may be allowed to opt out.

the conduct of the scoundrel or opportunist. Cohen (1992, 971); Epstein (1975); Rose (1988); Smith (2011).

3 Contracting Example

Imagine that buyers contract to purchase goods from a marketplace of competitive sellers. Buyers value quality (x), which the seller can provide through components a or b, so that $x = a + b$. We suppose that contracts are incomplete, in that they can describe a with precision but they cannot specify b or x. For the sake of concreteness, the seller might be a builder and the buyer a homeowner. The homeowner might be able to specify a characteristic of the house that they value (granite countertops from a particular manufacturer, which represents $a = 1$) but might not be able to describe all potential substitutes (this would represent $b = 1$) that would be equally desirable.

We assume that quality $x = 1$ is always efficient but that the efficient way of obtaining $x = 1$ depends on a non-contractible state of the world that is unobservable *ex ante*. With probability $1 - \pi$, the usual state obtains, and the cheapest way of achieving $x = 1$ is by setting $a = 1$. In this case, the cost of setting $a = 1$ is z_L. But with probability π, the unusual state obtains, and the cheapest way of obtaining $x = 1$ is with $b = 1$, again at a cost of z_L. We assume that neither the buyer nor the court can directly observe whether the usual or unusual state obtains. Because a can be specified in a contract but b cannot, the probability of the unusual state π is a measure of the degree of contractual incompleteness.

In both states, we assume that the cost of achieving high quality in the less efficient way is $z_H > z_L$. In the context of our homeowner/builder example, this captures the possibility that in some states of the world, full compliance with the explicit terms of a contract may be costly. Supplies of the particular granite may be temporarily unavailable to the builder, and the use of a close substitute countertop may be required. Since little is lost by doing so, we will simplify the model by assuming that $z_H = \infty$, implying that technical compliance with the letter of the contract in all states of the world is impossible.[6] Consider an example where values are given as in Table 1.

The state contingent costs are as given in Table 2. Assume that the seller can always supply the good with $a = 0$ and $b = 0$ at a cost of 0. Our assumption that quality $x = 1$ is always efficient implies that $V_1 > z_L$.

Formally, the timing of the game is as follows: In period 0, sellers offer contracts and buyers choose whether to purchase the good. In period 1, the state is revealed to sellers and sellers decide whether and how to invest in quality. In

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[6] In an earlier version of the model, we consider a finite z_H. This gives the garden-variety seller an additional option when opportunists enter the market: The seller can choose to technically comply with the contract by providing $a = 1$ in the unusual state. Adding this option limits the costs of opportunism to the extent that z_H is not too large.

Table 1 Value
to buyer

x	V
1	V_1
0	0

Table 2 Costs of investments

State	Probability	Cost for $a = 0$ & $b = 0$	Cost for $a = 1$	Cost for $b = 1$
Usual	$1 - \pi$	0	z_L	$z_H = \infty$
Unusual	π	0	$z_H = \infty$	z_L

period 2, the buyers receive the good and make a decision on whether or not to
sue for breach. In period 3, the court decides whether to find breach and how
much damages to assess.

3.1 Garden-Variety Buyers

We assume that garden-variety buyers are limited in their ability or desire to
exploit their contractual rights in full. They might, for example, have cognitive
limitations that prevent them from remembering the full details of the contract
or limitations that prevent them from discovering the precise characteristics of
the good they receive from the seller. Hence, it is not always obvious to them
whether there was a technical breach or not.

Concretely, we suppose that garden-variety buyers observe the total quality
x, so they know whether they are satisfied with the final outcome, but they must
incur a cost of c to investigate the seller's means of compliance and observe a or
b. If they are dissatisfied, they may infer that a breach is likely to have occurred
but they are not able to sue without paying a cost of c to uncover evidence of
the breach.

For expositional purposes, we will say that the seller provides *substantive
compliance* when high-quality goods are provided in both states ($a = 1$ in the
usual state and $b = 1$ in the unusual state), *partial compliance* when high quality
is provided only in the usual state ($a = 1$ in the usual state and $x = 0$ in the
unusual state), and *low quality* when $x = 0$ in both states.

Remark 1. *In this setting, a first-best allocation requires that the seller provide
substantive compliance and no investigation costs are incurred by buyers.*