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Recommended Citation
Alan Schwartz & Robert E. Scott, *Market Damages, Efficient Contracting and the Economic Waste Fallacy*, Columbia Law Review, Vol. 108, p. 1610, 2008; Columbia Law & Economics Working Paper No. 332 (2008).
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Working Paper No. 332

May, 2008
Forthcoming 108 Colum. L. Rev. (Nov. 2008)

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MARKET DAMAGES, EFFICIENT CONTRACTING AND THE ECONOMIC WASTE FALLACY

Alan Schwartz [*] ***and Robert E. Scott*** [**]

Forthcoming 108 Colum. L. Rev. (Nov. 2008)

Market damages – the difference between the market price for goods or services at the time of breach and the contract price – are the best default rule whenever parties trade in thick markets: they induce parties to contract efficiently and to trade if and only if trade is efficient, and they do not create ex ante inefficiencies. Courts commonly overlook these virtues, however, when promisors offer a set of services some of which are not separately priced. For example, a promisor may agree to pay royalties on a mining lease and later to restore the promisee's property. In these cases, courts compare the cost to the promisor of providing the service that was not supplied to the increase in the market value of the promisee/buyer's property had the promisor/seller performed. When the cost of completion is large relative to the "market delta"– the increase in market value – courts concerned to avoid "economic waste" limit the buyer to the market value increase. This concern is misguided. Since the buyer commonly prepays for the service at the ex ante market price, a cost of completion award actually has a restitution element – the prepaid price – and an expectation interest element – the market damages. The failure to recognize the joint nature of cost of completion damages causes courts to deny these damages more frequently than they should. In this paper, we argue that the unappreciated virtues of market based damages justify removing the courts' discretion to deny them no matter how high they appear to be. The rule that denies buyers market damages induces excessive entry into these service markets. Moreover, buyers are under-compensated when they prepay and cannot recover the price paid for the breached services but instead are restricted to the market delta. As a result, too few buyers contract ex ante for the relevant service and surplus maximizing contracts are forgone. Finally, sellers often can take actions in the interim between making the contract and the time for performance of the service that would reduce the service cost to manageable proportions. Sellers are less likely to take these precautions if they are required to pay buyers only the market delta rather than the full performance cost that their actions could have avoided.

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We thank Ian Ayres, Scott Baker, Oren Bar-Gill, Elizabeth Emens, Clayton Gillette, Victor Goldberg, Alvin Klevorick, Yair Listokin, Daniel Markovits, Ronald Mann, Edward Morrison, Alex Raskolnikov, Eric Talley, George Triantis and participants at workshops at the Berkeley, Columbia, North Carolina and Yale Law Schools for helpful comments on prior drafts.

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I. INTRODUCTION

Contract theory identifies three central goals for the law to pursue in facilitating efficient contracting. Initially, the law should maximize the probability that parties will contract when a contract would create gains in excess of costs. For example, when a seller contracts to perform services, the buyer expects to earn the difference between the value he will realize from performance and the contract price.[1] Protecting this expectation interest at the contracting stage maximizes the probability that the buyer will contract when his gain exceeds contracting costs. Thereafter, the law should create an incentive for the parties to invest in the relationship to maximize the joint expected surplus. Here, the law should select a damage measure that does not induce the buyer to invest excessively in reliance in order to increase his litigation return. Finally, the law should create an incentive for the parties to trade[2] when the buyer values performance in excess of the seller's costs. When a market for substitutes exists, any damage measure will permit the parties to trade efficiently. Contract law commonly selects the "market damage" measure: the difference between the market price for goods or services at the time of breach and the contract price. In certain service contexts, however, courts believe that full market damages would over-compensate the buyer. Courts equate overcompensation with "economic waste" and reduce the buyer's damages accordingly. This article argues that market damages are always the preferable damage measure whenever a market for substitutes exists, even in circumstances where courts believe these damages would constitute economic waste.

It is tempting to argue that the direct measures of the buyer's expectation are preferable to market damages because these measures precisely implement the law's goal. Thus, for example, direct expectation damages award the buyer the exact difference between his value and the contract price. Direct damage measures have two undesirable properties, however. First, the

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[1] We use the term the term "seller" to denote a promisor who has contracted to perform services, and the term "buyer" to denote the promisee who has agreed to pay for those services. In the cases we focus on, a seller may be a mining company who fails as promised to restore property at the conclusion of its lease, or a conventional builder under a construction contract who breaches a promise to repair defects in construction. We focus primarily on buyer remedies but much of what we say applies to sellers as well.

[2] Contract theory distinguishes between "contract" and "trade." A buyer efficiently contracts when his expected value from performance exceeds the price. A buyer efficiently trades (i.e., either performs the contract with the seller or, upon seller's breach, purchases a substitute on the market) when his actual value from performance

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value that a buyer would have realized had the seller performed sometimes is very difficult to verify.[3] Courts cannot award direct expectation damages when they cannot measure the expectation. Second, these damages protect the buyer's expectation given the investment the buyer made in the contract. As a consequence, they create an incentive for the buyer to invest excessively when, as is often the case, the seller cannot observe the buyer's reliance actions.[4] These two difficulties create incentives for parties to contract out of direct expectation damages and, indeed, consequential damage exclusions are ubiquitous.

The difficulties with direct expectation interest damages may be avoided by protecting the buyer's expectation with specific performance. This remedy gives the buyer what he expects at the price he agreed to pay. Specific performance also makes low informational demands on the trier of fact because she need not recover the buyer's valuation.[5] Specific performance, however, also has two undesirable properties. First, circumstances may change materially between the time of contracting and the time of performance. If the parties at performance time are not symmetrically informed about values and costs, they may be unable to agree on a modification of their contract that directs the efficient outcome. If renegotiation fails, a court may compel the seller to perform under the original, inefficient contract.[6] Second, and of greater

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exceeds the seller's realized cost of performance. Similarly, a seller efficiently contracts when the price exceeds her expected cost, and she efficiently trades when the buyer's value is above her realized cost.

[3] The common law foreseeability and certainty limitations on awarding full expectation damages increase the cost of proving damages and thus exacerbate the verifiability concern. See e.g., Hadley v. Baxendale, 156 Eng. Rep. 145 (1854); Freund v. Washington Square Press, 357 N.Y.S. 2d 857 (1974) (illustrating the common law foreseeability and certainty limitations on direct expectation damages). For discussion see ROBERT E. SCOTT & JODY S. KRAUS, CONTRACT LAW AND THEORY 951- 968 (4TH ED. 2007).

[4] Under an award of full expectancy, a buyer's payoff is his realized valuation from performance. As a consequence, the buyer has an incentive to increase that valuation if he can. When the seller cannot observe what the buyer does, a buyer who can affect value will invest in the subject matter of the contract until his marginal gain equals his marginal cost. This investment level is too high because the buyer does not consider that in some ex post states (when the seller would incur high costs) performance would be inefficient. In these states, the buyer's investment is useless, so his investment costs are a social waste.

[5] This virtue may be overstated when the seller's performance is complex; then a court may have difficulty identifying the set of performance tasks that would maximize the buyer's value.

[6] In addition, to a lesser extent than direct expectation damages, but to a positive extent nevertheless, a buyer's payoff under specific performance is a function of his investment, so he will be induced to overinvest. See e.g., William P. Rogerson, *Efficient Reliance and Damage Measures for Breach of Contract,* 15 Rand J. Econ. 39, 47 (1984) (concluding that under expectation damages buyers will choose a greater than efficient level of reliance).

significance, specific performance requires a court order and it is discretionary.[7] Court orders commonly take a long time to obtain and, when granted, may require the court to police performance by the seller. The remedy thus is unhelpful to buyers who require either a prompt or a difficult to supervise performance.[8] Since there are many such buyers, specific performance is sought no more frequently in jurisdictions where the remedy is available as of right than it is sought in the United States, where the remedy is discretionary with the court.[9]

Market damages protect the buyer's expectation interest indirectly, but without the undesirable properties that accompany the other remedies. A buyer who purchases a substitute for the breaching seller's performance and then recovers as damages the difference between the price he paid and the contract price obtains the performance he wanted at the contract price. Market damages also make relatively low information demands on the trier of fact. A court must know only the contract price and the cover – i.e., repurchase -- price, both of which commonly are recoverable. The seller also knows these values. Hence, under market damages she can make an efficient decision whether to perform or not. In addition, market damages do not require courts to supervise complex performances, nor do they face buyers with the difficult choice either of waiting too long for a remedy or of having no remedy at all (when their valuations are unverifiable). The buyer can purchase a substitute performance promptly and

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[7] For example, UCC §2-716(1) provides that a court may award specific performance where the goods are unique or "in other proper circumstances." The vague standard of "other proper circumstances" gives courts in sales contexts substantial latitude in deciding whether to issue specific performance decrees. See Klein v. Pepsico, Inc., 845 F.2d 76 (4th Cir. 1988). Courts have the same discretion over service contracts. See Restatement (Second) of Contracts § 357(1) (1981).

[8] The statement in text needs some qualification. Buyers who have a right to specific performance are entitled to apply for preliminary injunctions or "injunctions against breach." See, e.g., UCC § 2-716, Comment 1 (2001); Restatement (Second) of Contracts §357(2) (1981). Injunctions can moderate the problem of delay. Common observation suggests, however, that preliminary injunctions rarely are granted.

[9] Henrik Lando & Caspar Rose, On Specific Performance in Civil Law and Performance Cost, WP 2000-10, Copenhagen Business School. One response courts have fashioned to the temporal problems with the specific performance remedy is to award "monetary specific performance;" that is, the proceeds received by the breaching seller when the contract goods or services are sold to a third party. However, sellers who breach often do not resell. Moreover, monetary specific performance suffers from the same verification difficulties as direct expectation damages. Perhaps for this reason, courts increasingly decline to grant monetary specific performance. See e.g., Bander v. Grossman, 611 N.Y.S. 2d 985 (1994). For discussion, see SCOTT & KRAUS, CONTRACT LAW AND THEORY, supra note 2, at 884-5. Note that parties can internalize the costs of the two problems described above. Hence, courts should enforce contracts that authorize specific performance and be otherwise strongly predisposed to grant it on request.

recover from the seller later. Finally, market damages do not create moral hazard: the buyer cannot increase his legal award by the reliance actions he takes after the contract is made.[10] As real world evidence of these virtues, parties seldom contract out of the market damages rule when they can purchase substitute performances.

Market damages, however, are widely believed to have a serious defect when the seller is providing a service. In service cases, buyers commonly sue for the "cost of completion"-- the cost of purchasing a substitute performance in the market. But sometimes the cost of completion greatly exceeds the gain in the market value of the buyer's property that the seller's performance would have produced. Since other sellers will have similar costs to those of the contract seller, awarding cost of completion damages in these cases was once thought to subsidize "economic waste." The buyer could use the damages to purchase a performance whose cost much exceeds its value. This putative danger is primarily present in construction contexts.[11] In typical cases, such as *Jacob & Youngs v. Kent,*[12] a contractor has deviated from the agreed upon performance in an apparently minor way but the costs of remedying that defect would have been much higher than the reduction in property value that the deviation produced. Alternatively, in cases such as *Peevyhouse v. Garland Coal Co.,*[13] a lessee has agreed to restore the lessor's property after the

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[10] The buyer's payoff under market damages is a function of the contract price, which has been set before the buyer chooses an investment level, and the ex post market price, which the buyer cannot affect. As a consequence, market damages make the buyer the residual claimant of his reliance investment: he realizes all of the gains and bears all of the costs. Consequently, the buyer will be sensitive to the possibility that performance sometimes would be inefficient, and when it is his reliance costs will have been wasted. This realization will temper over-reliance.

[11] While the "economic waste" doctrine is limited to contracts for services, the analogous issue of overcompensation arises in sales cases as well. See e.g., Allied Canners & Packers, Inc. v. Victor Packing Co., 209 Cal. Rptr. 2d 60 (1984). For discussion see Robert E. Scott, *The Case for Market Damages; Revisiting the Lost Profits Puzzle,* 57 U. Chi. L. Rev. 1155, 1198-1201 (1990).

[12] 230 N.Y. 239, 129 N.E. 889 (1921). In *Jacob & Youngs v. Kent,* the owners discovered that the pipe installed in their summer home was of a different brand than that specified in the contract, though apparently the installed brand would perform as well as the contract brand. The cost of replacing the installed pipe would have been large because substantial portions of the completed home would have had to be torn down. In finding for the contractor, Justice Cardozo observed that the market value of the home was trivially lower than the value it would have had if the contract pipe were installed. He then invoked the economic waste doctrine as the rationale for limiting the owners to the diminution in market value that the breach caused. Many commentators believe the case can be justified on the ground that the contractor's performance fully conformed to the contract specifications. Nevertheless, the rule has survived and is commonly applied in cases where the performance was clearly deficient. See cases cited in note – infra.

[13] 382 P2d 109 (Okla. 1962). See also cases cited in note – infra.

lessee has used it, but the costs of restoration turn out to be much higher than the increase in property value that restoration would have created. Courts commonly reject market damages in these cases in favor of awarding the buyer the "market delta" – the difference between the market value of the buyer's property had the seller performed and the property's actual market value.[14]

The economic waste rationale is unsatisfactory, however, because a rational buyer will not use the cost of completion damage award to purchase a performance that is worth less to him than its price. The buyer will spend the legal award, but he will not waste it.[15] Modern courts realize that buyers will not use the money to undertake repairs that require substantial and inefficient demolition or that have little economic benefit,[16] but they continue to reject damages measured by the ex post market price of the contract performance.[17] Since the cost of completion award is meant to enable the buyer to purchase a substitute, and since the buyer will purchase something else, the contemporary rationale holds that cost of completion damages would only redistribute wealth from sellers to buyers. Courts thus restrict buyers to the market delta – the difference between the market value of a buyer's property with and without the seller's performance – to avoid a "windfall."

The consequences of denying market damages in these contexts have been poorly understood. The desirability of awarding these damages *whenever* the buyer can purchase a substitute performance on the market become clear only when those consequences are exposed. Our analysis of the choice between a market delta award and market damages supports the

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[14] Courts commonly refer to this remedy as the "diminution in market value" attributable to the breach. For convenience, we use the designation "market delta" for this remedy throughout this Article.

[15] There is no requirement that the buyer use a damage award to demolish existing structures in order to rebuild or complete construction. See Green v. Bearden Enterprises, Inc., 598 S.W.2d 649 (1980). When buyers attach substantial subjective value to performance, they may use a monetary award to complete the contract; but this would be because they value the aesthetic increase more than the money. If their utility calculus runs the other way, they will spend the money elsewhere.

[16] See e.g., Eastlake Const. Co., Inc. v. Hess, 102 Wash.2d 30, 686 P.2d 465 (1984); Vezina v Nautilus Pools, Inc. 27 Conn App 810, 610 A2d 1312 (1992); Wells v Minor 219 Ill App 3d 32, 578 NE2d 1337 (1991); Mort Wallin of Lake Tahoe, Inc. v Commercial Cabinet Co. 784 P2d 954 (Nev. 1989); Lyon v. Belosky Const. Inc., 247 A.D.2d 730, 669 N.Y.S.2d 400 (3d Dep't 1998).

[17] A key doctrinal prerequisite for many such courts is that the seller appears to have substantially performed the contract in good faith.

following claims. First, restricting buyers to the market delta misallocates resources. The measure functions as a subsidy to sellers in any market period by reducing the damages a breaching seller would otherwise pay.[18] As with any subsidy, there is a dynamic inefficiency. Under the economic waste rule, sellers pay less than full market damages when they breach but recover full market damages when buyers breach. As a consequence, sellers realize positive expected profits: they expect to gain more when they perform than they expect to lose when they breach. New firms will enter to compete these profits away, but in equilibrium the market will have an inefficiently large number of firms.[19]

Although the market delta damage measure misallocates resources, some courts may believe that the more important concern is distributional. It appears unjust to impose a large windfall loss on the seller, which is the apparent result of awarding cost of completion damages when they greatly exceed the market delta.[20] This concern prompts our second claim: The seller's windfall loss is smaller than is generally realized in the common case where the buyer prepays for the contract service. A buyer who has prepaid is entitled *both* to restitution of the price and to market damages. Cost of completion damages incorporate this restitutionary component.[21] The cost of completion is the ex post market price for the contract service: this price, in turn, is the sum of (a) the ex ante market price and (b) the difference, if any, between the

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[18] The market delta measure does not prevent buyers from covering when they should– i.e., when the buyer values performance at above its cost – because courts award market damages when cover is likely. Rather, the measure reduces the damages of buyers who will sue for money damages but not use the damage award to cover.

[19] Subsidies may be desirable when the state has non-economic reasons for encouraging participation in particular markets. For example, people defend farm subsidies because family farms are thought to sustain important social values. Contract law, however, is general so the market delta induced subsidy benefits sellers generally. No apparent non-pecuniary motives outweigh the consequent inefficiency. We later show that this misallocation is not offset by a corresponding reduction in buyer demand. See note 86, infra.

[20] The concern that market damages may sometimes impose a large windfall loss on the seller must be balanced against the risk that awarding market delta damages will often undercompensate the buyer. The market delta measure is significantly undercompensatory when the ratio of the market value of performance to the true value is small. Courts can observe market values but often cannot observe true values, especially when those values are largely subjective. When a buyer's true loss from breach greatly exceeds his market value loss, awarding the buyer only the market loss may prevent the buyer from purchasing a substitute that he values in excess of its cost.

[21] In theory, a restitution claim is an available alternative whenever the seller fails to perform the contract service after accepting part or all of the contract price for that service. See e.g., *Chamberlin v. Parker,* 45 N.Y. 569, 572 (1871):

> if [a person] chooses to erect a monument to his caprice or folly on his premises, and employs and *pays another to do it*, it does not lie with a defendant who has been so employed and *paid for building it*, to say that his own performance would not be beneficial to the plaintiff." [emphasis added].

ex post market price and the ex ante market price.[22] Hence, if the initial contract and the replacement contract were both made at current market prices, awarding the buyer the cost of completion satisfies his restitutionary claim to recover back the price and his expectation interest claim for market damages. Since the buyer has an independent right to restitution when the seller takes the money but fails to perform, courts concerned to avoid windfall losses should compare the market delta *not* to the full cost of completion but *only* to the market damages portion. The difference between market damages and the market delta necessarily is smaller than the difference between full cost of completion damages and the market delta. Since prepayment is common, an implication of our second claim is that courts that prefer the market delta measure still should award market damages in more cases than they now do.

Courts and most commentators have overlooked this implication because they have not recognized that buyers prepay for the services that commonly appear in the cases.[23] This omission probably occurs because the services are bundled together and are not separately priced. As an example, the royalty on a mineral lease is smaller if the lessee agrees to restore the land after mining, but there seldom is an explicit "sub-price" for restoration. The cost of constructing a building seldom is disaggregated into separate prices for the promise to install the plumbing and the promise to correct defective work. But to deny that the buyer in such cases has prepaid is to assert, implausibly, that the mining lessee had agreed to restore for nothing or that the contractor did not charge for the service of correcting nonconforming plumbing.[24]

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[22] For readers who like algebra, denote the ex post market price for the contract service as p_m and the contract price as p_k. A buyer who is awarded restitution of p_k plus market damages of $p_m - p_k$ receives $p_k + (p_m - p_k) = p_m$, which is the cost of completion.

[23] A few scholars have noted the restitutionary element of the buyer's claim. See e.g., Melvin A. Eisenberg, *The Disgorgement Interest in Contract Law,* 105 Mich. L. Rev. 559, 592-99 (2006), and E. Allan Farnsworth, *Your Loss or My Gain? The Dilemma of the Disgorgement Principle in Breach of Contract,* 94 Yale L. J. 1339, 1384-85 (1985); MARVIN A. CHIRELSTEIN, CONCEPTS AND CASE ANALYSIS IN THE LAW OF CONTRACTS 190 (5th ed 2006).

[24] The standard construction contract contains an independent promise by the contractor to correct any defective construction. This promises binds even after substantial performance of the contract. See e.g., the standard form AIA Contract, General Conditions of the Contract for Construction, Document A-201(1997). Section 12.2.1 provides "if ...after the date of Substantial Completion of the Work...any of the Work is found not to be in accordance with the requirements of the Contract documents...the Contractor shall correct it promptly after receipt of written notice from the Owner...."

The bundling problem would sometimes make it infeasible for a court to retain the economic waste rule but apply it only when the market delta is well below the market damages component. This version of the economic waste rule is hard to implement in the prepayment case because the court must disaggregate a cost of completion award into its constituent elements -- restitution (i.e., the ex ante contract price of the service) and market damages.[25] If the contract has one price for a bundled set of tasks (i.e., mining plus restoration), identifying which portion of the price is for the service at issue can be difficult. A court's realistic choices will often reduce either to continuing current practice – comparing the full cost of completion to the market delta -- or awarding cost of completion damages in all cases. Despite the fact that current practice vitiates the buyer's right to restitution, a court concerned to avoid large windfall losses may nonetheless be more willing to apply the market delta rule in the prepayment case. This is because windfall losses are larger when the buyer prepays. Parties bundle services such as construction or restoration because the original seller is the lowest cost provider (e.g., a mining lessee may more cheaply restore than a stranger to the already mined property). Because bundling is efficient, the contract price for a bundled service is less than the price for that service if it were purchased separately: the lower the contract price, the larger are market damages and the larger is the gap between these damages and the market delta.

This analysis leads to our third claim: the market delta rule creates two additional inefficiencies when buyers prepay. First, many buyers would earn negative expected returns if sellers can retain prepayments but not perform the contract service satisfactorily. Buyers who anticipate losing money will avoid contracting for the service in its efficient bundled form in favor of contracting for the service separately at a higher price. Second, restricting buyers to the market delta in the prepayment case creates a moral hazard. The market delta rule is applied against buyers who sue for money damages but will not cover because the cost of purchasing the service *after* the seller has completed her other tasks exceeds its value. Sellers, however, sometimes can reduce the cost of performing the contract service below the buyer's value by taking reliance actions *in the interim* between the time of contract and the time when the seller is to complete the

[25] As an example, let the cost of completion – the ex post market price – be 15 and suppose that the market delta is two. If the contract price were 5, market damages are 15 - 5 = 10, which is five times greater than the market delta. If the contract price is 10, then market damages are 5, which is only two and a half times the market delta. A court

entire performance. But a prepaid seller's incentive to invest efficiently in cost reduction is materially reduced if her damage exposure for failing to invest is capped by the market delta. Cost of completion damages in these cases thus are an efficient deterrent against this moral hazard.

Finally, we show that while any damage measure permits the parties to trade efficiently, protecting the expectation interest best induces parties to contract when contracting yields expected gains in excess of costs. Our initial three claims exhibit the superiority of market damages at protecting the expectation interest when a market is available. These claims in turn support our final claim that a contract law that awards market damages whenever buyers seek them maximizes the probability that parties will make ex ante efficient contracts.

The Article proceeds as follows. Part II examines a sample of cases concerning the award of damages for a seller's breach in order to recover the law in action under the economic waste doctrine. When the cost of completion significantly exceeds the market delta, most contemporary courts apply the economic waste rule and limit the buyer to the diminution in market value. This Part also shows that, in effect if not in law, the market delta measure is a mandatory rule. Part III shows that awarding market damages to sellers but selectively denying them to buyers misallocates resources, that market damages cannot adversely affect investment incentives and that protecting the expectation interest with market damages uniquely maximizes the probability that parties will make efficient contracts. In Part IV, we develop the additional inefficiencies that the market delta rule produces when buyers prepay. Part V applies the prior arguments to show that cost of completion damages should be the universal default regardless of the extent by which this award would exceed the market delta. Part VI concludes and generalizes the analysis by commenting briefly on the courts' regrettable tendency to enact mandatory rules in place of standard commercial practice.

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that prefers to restrict a buyer to the market delta when it is small in relation to market damages thus must know the contract price for the relevant service.

II. RECOVERING THE LAW ON BUYERS' DAMAGES IN SERVICE CONTRACTS

A. The Uncertainty Concerning Economic Waste Claims

Perhaps no problem in contract law has been as vexing for courts as the question of the appropriate measure of damages for breach by a seller of a construction or other service contract. The general rule permits the buyer to recover expectation damages as measured by the loss in value to the buyer caused by the seller's breach. Courts recognize that this difference in value is best shown by evidence of the cost of completion or of correcting the defect.[26] The cost of completion measures the buyer's true expectancy loss more accurately than would the opinion of an expert as to the diminution in market value resulting from the breach. The cost of completion or repair measure is circumscribed, however, by the fair market value of the property.[27] If this measure appears grossly disproportionate to the benefit obtained or if the repair involves the substantial destruction of the seller's work, then the buyer is limited to the diminished market value on the ground that the standard remedy would produce "economic waste."[28]

Despite the clear statement of the general rule, the application of the "economic waste doctrine"[29] remains unclear. For example, courts have declined to apply the economic waste rule when the buyer appears to attach aesthetic value to the promised performance.[30] The evidence of possible subjective value seems to ease the fear that cost of completion damages will be

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[26] St Louis, L.L.C. v. Final Touch Glass & Mirror, Inc, 899 A.2d 1018 (2006).

[27] Magnus Homes, LLC v. DeRosa, 545 S.E. 2d 166 (Fla. 2001).

[28] Kurt v. Reams, 683 N.W.2d 127 (2004). When the homeowner presents evidence of the cost of repair or replacement, the contractor has the burden of presenting evidence that the cost of repairing or replacing the property is disproportionate to the diminution in value of the property. Stom v. St. Clair Corp., 153 S.W.3d 360 (2005).

[29] For convenience, in this Article we refer to both the traditional "economic waste" and the more contemporary "no economic benefit" formulations collectively as the "economic waste doctrine." We show below that the rhetorical difference has no effect on case outcomes.

[30] See e.g., Carter v Quick, 263 Ark 202, 563 S.W.2d 461 (1978); Edenfield v Woodlawn Manor, Inc., 62 Tenn App 280, 462 S.W.2d 237 (1970); Gory Associated Industries, Inc. v Jupiter Roofing & Sheet Metal, Inc., 358 So. 2d 93 (Fla. App. 1978); A.B.C. Builders, Inc. v. American Mut. Ins. Co., 661 A.2d 1187, 139 N.H. 745, (1995). See discussion TAN supra.

overcompensatory. Even more uncertainty exists when the seller has failed to perform a portion of the contract. Many of these cases involve a breach by the seller of her promise to regrade or restore premises at the end of a lease term. Here the cases are divided. Some courts have held that when the seller materially breaches her promise to regrade or restore, the buyer is entitled to cost of completion damages even though the expenditure of a large completion cost would produce only a small market value gain.[31] Many other courts, however, apply the economic waste doctrine to award only the market delta that the promisor's services would have generated.[32] These latter cases follow the holding in *Peevyhouse, v. Garland Coal Co.*[33] Although the Oklahoma court in *Peevyhouse* appeared to limit its holding to cases in which the promise to regrade was an "incidental purpose" of the contract, subsequent case law in Oklahoma rests the diminution measure on the principle that the buyer should recover no more than is allowed by the compensation principle of contract damages.[34]

The uncertainty surrounding the economic waste doctrine reflects the courts' ambivalence about the appropriate choice of damage measure. This ambivalence follows from the courts' failure to isolate the factors that should influence their choice of the appropriate remedy. For example, ex post completion costs may significantly exceed their contribution to market value when these costs partly reflect the buyer's prepayment of the contract price. Moreover, the market delta measure may be an inaccurate proxy for the buyer's valuation, especially when the buyer does not

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[31] See e.g., Rock Island Improvement Co. v. Helmerich & Payne, Inc., 698 F.2d 1075 (10th Cir.), cert. denied, 461 U.S. 944 (1983); Emery v. Caledonia Sand & Gravel Co., 117 N.H. 441, 374 A.2d 929 (1977); American Standard v. Schectman, 439 N.Y.S. 2d 529 (1981); Groves v. John Wunder Co., 286 N.W. 235 (Minn. 1939).

[32] See cases cited in note –infra.

[33] 382 P. 2d 109 (Okla. 1962). In *Peevyhouse,* the lessee breached its contract to regrade a family farm at the conclusion of a mining lease term. The cost of completion was estimated to be $29,000 while the failure to regrade diminished the market value of the property by only $300. Since it appeared to the court that the economic benefit of regrading so greatly exceeded its cost, the court measured the property owners lost expectancy by the lesser amount.

[34] Schneberger v. Apache Corp., 890 P.2d 847 (Okla. 1994).

otherwise receive restitution of his prepayment. Finally, the seller may have failed to take efficient ex ante precautions to prevent extraordinary repair[35]or completion costs.[36]

In short, the proper damage remedy could conceivably depend on the causes of the divergence between cost of completion and market value. If the divergence reflects, in part, the buyer's prepayment of the price for the contract service, then the question is which damage measure discourages excessive breach by sellers or better approximates the compensation goal of contract damages. In cases where the ex post restoration or repair costs are endogenous, it may be appropriate to ask which measure motivates efficient precautions by the seller. Finally, one might properly conclude that neither damage measure will support the compensation goal or improve contractual incentives in all cases. On this view, the damage rule should be a default. Would a court enforce a liquidated damages clause that protected the buyer's subjective valuation where it greatly exceeded the market delta? Are there other contractual mechanisms parties could select that would ensure that the buyer's value in the contract services was protected?

There is continuing doctrinal uncertainty about the answers to these questions. The normative question –which damage measure is best--cannot be resolved until the relevant positive questions are answered. Given the range of factual conditions in economic waste cases, it is unsurprising that there remains substantial confusion about what damages a court will award and whether parties are free to contract away from a given damage measure. In the following section,

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[35] See e.g., Jacob & Youngs v. Kent, 129 N.Y. 889 (N.Y. 1921). The extraordinary costs of completion in *Jacob & Youngs* resulted from the contractor's failure to inspect the pipe to be installed throughout the owner's residence on site to ensure that it complied with the contract specifications. See TAN infra. As an aside, it seems quite clear that Justice Cardozo interpreted the contract specification that "all wrought iron pipe must be well-galvanized, lap welded pipe of the grade known as 'standard pipe' of Reading manufacture" as a generic quality standard rather than a requirement that only Reading pipe would satisfy the contract specifications. Any other assumption would require a finding that the breach was willful and deliberate. Notwithstanding this plausible justification for the result of the case, the holding was explicitly based on the economic waste doctrine, which appears to presuppose a seller breach, and this holding has significantly influenced subsequent case law.

[36] See e.g., Peevyhouse v. Garland Coal Co., 382 P. 2d 109 (Okla. 1962). The plaintiff, Garland, admitted at trial that the owners had insisted that the regrading provisions be included in the contract and that they would not agree to the coal mining lease unless the promise to regrade was included. Heavy rains caused Garland to postpone promised remedial work. In the interim, it relocated the grading equipment to another profitable site and subsequently decided not to return to complete the remedial work. Judith L. Maute, Peevyhouse v. Garland Coal & Mining Co. *Revisited: The Ballad of Willie and Lucille,* 89 Nw. U. L. Rev. 134, 1346-9 (1995).

therefore, we recover the law in action to determine more precisely the scope and rationale of the economic waste doctrine.

B. What Courts Actually Do

In order systematically to evaluate how contemporary American courts treat economic waste claims across a range of factual situations, we analyzed a sample of 110 cases, most of which were litigated over the past two decades.[37] Our goal was to disaggregate the cases by uncovering the factual patterns that generated litigation and identifying the legal consequences that courts attached to those patterns.

The cases in our sample fell into four patterns, the first two of which comprise cases where the court awarded cost of completion damages but based on quite different facts. Sixty-two cases involved breach by the contractor where there was insufficient evidence of disproportion between completion cost and market value. In each of theses cases, the courts followed the standard rule that cost of completion was the preferred damage measure. These courts emphasized the historic preference of the common law for market damages as the best way to measure the buyer's lost value whenever there was a good market for the contract services.[38] This preference for market damages dominated because the seller was unable to carry the burden of proving that

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[37] We gathered our sample in two stages. In stage one we produced a sample of 56 cases. Our research strategy involved the following steps: 1) Compiling a list of cases dealing with the choice between "cost of completion" and "diminution in value," via a search on Westlaw.com; 2) Selecting a random sample of 50 of these cases, with a disproportionate number taken from the last decade, 3) Supplementing this random sample with a targeted sample of cases specifically addressing the situation where the issue of disproportion arose either by a reduction in land or market values ex post or where the owner attached an idiosyncratic value to the construction/restoration. This step added an extra 6 cases.

Subsequently, we augmented this initial sample with a further sample of 54 cases. Here our research strategy involved the following steps: 1) Searching westlaw.com for cases dealing with "cost of completion" or "diminution in value" under keycites dealing with damages:115k103, Measure of Damages, Injury to Property 115k117-126, Measure of Damages, Breach of Contract, 115k139.5-140, Amount Awarded, Breach of Contract; 2) Due to the limited number of cases dealing with diminution in value we performed another targeted search for cases dealing with "difference in market value" using the same keycites. This step added four additional cases.

[38] St Louis, L.L.C. v. Final Touch Glass & Mirror, Inc, 899 A.2d 1018 (2006); Magnus Homes, LLC v. DeRosa (2001).

completion cost damages greatly exceeded the market delta.[39] On the other hand, in eight cases the court followed the standard rule and awarded completion cost damages even though the seller had established that completion costs would substantially exceed the market delta. Each of these cases raised the issue of subjective value. When there was credible evidence of aesthetic value, the court followed the standard rule notwithstanding the evidence of disproportion.[40]

Conversely, the last two patterns represent cases where courts overwhelmingly rejected the buyer's claim for the cost of completion and instead awarded market delta damages. In fourteen of those cases, the seller had substantially completed a construction project but had breached its obligation to repair a defective performance ex post. In each instance, the seller proved that a substantial demolition or destruction of existing work was required to meet the contract specifications. These courts uniformly followed *Jacob & Youngs v. Kent,* limiting the plaintiff to market delta damages where completion costs were disproportionately greater.[41] A similar result

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[39] See e.g., St Louis, L.L.C. v. Final Touch Glass & Mirror, Inc, 899 A.2d 1018 (2006); Stom v. St. Clair Corp., 153 S.W.3d 360 (2005); Marino v. Lewis, 792 N.Y.S.2d 572 (2005); Mount Mariah Baptist Church, Inc. v. Pannell's Assoc. Electric, Inc., 835 So.2d 880 (2003); Kurt v. Reams, 683 N.W.2d 127 (2004); GSB Contractors, Inc. v. Hess, 179 S.W.3d 535 (2005); Erney v. Freeman, 84 S.W.3d 529 (Mo.Ct.App. 2002); Info. Sys. and Networks v. City of Kansas City, Mo., 147 F.3d 711 (8th Cir. 1998); Carringer v. Ballinger, 628 P.2d 1106 (Mont. 1981); Kaufman v. Le Curt Constr. Corp., 601 N.Y.S.2d 186 (App.Div. 1993); Panorama Village Home Owners Ass'n v. Golden Rule Roofing, 10 P.3d 417 (Wash.Ct.App. 2000); City of Charlotte v. Skidmore, Owings and Merrill, 407 S.E.2d 571 (N.C.Ct.App. 1991); Service Unlimited, Inc. v. Elder, 542 N.W.2d 855 (Iowa Ct.App. 1995); Rafferzeder v. Zellner, 613 S.E.2d 229 (Ga. App. 2005); Martin v. McKenney, 429 S.E.2d 270 (Ga. App. 1993); Lapierre v. Samco Dev., 406 S.E.2d 646 (N.C. App. 1991); Swain v. Harvest States Coops., 469 N.W.2d 571 (N.D. 1991); All Seasons Water Users Ass'n, Inc. v. Northern Improvement Co., 399 N.W.2d 278 (N.D. 1987); McLane v. Wal-Mart Stores, 10 S.W.3d 602 (Mo. App. 2000).

[40] See e.g., Carter v Quick, 263 Ark 202, 563 S.W.2d 461 (1978); Edenfield v Woodlawn Manor, Inc., 62 Tenn App 280, 462 S.W.2d 237 (1970); Gory Associated Industries, Inc. v Jupiter Roofing & Sheet Metal, Inc. 358 So 2d 93 (Fla. App.1978); A.B.C. Builders, Inc. v. American Mut. Ins. Co., 661 A.2d 1187, 139 N.H. 745 (N.H.1995); American Const. & Environmental Services, Inc. v. Mosleh, 2002 WL 31480282 (Cal. App. 2002) (No. A093541); Orndorff v. Christiana Cmty. Builders, 266 Cal. Rptr. 193 (Cal. App. 1990); City School Dist. of City of Elmira v. McLane Constr., 445 N.Y.S.2d 258 (App.Div. 981); Kangas v. Trust, 441 N.E.2d 1271 (Ill. App. 1982).

[41] See e.g., Vezina v Nautilus Pools, Inc., 27 Conn. App. 810, 610 A.2d 1312 (1992); Wells v Minor, 219 Ill. App. 3d 32, 578 N.E.2d 1337 (1991); Mort Wallin of Lake Tahoe, Inc. v Commercial Cabinet Co., 784 P.2d 954 (Nev. 1989); Lyon v. Belosky Const. Inc., 247 A.D.2d 730, 669 N.Y.S.2d 400 (1998); Grossman Holdings Ltd. v. Hourihan, 414 So.2d 1037 (1982); Lowe v. Morrison, 412 So.2d. 1212 (Ala. 1982); Maricopa County v. Walsh & Oberg Architects, 494 P.2d 44 (Ariz. App. 1972); Gadbois v. Leb-Co. Builders, 458 A.2d 555 (Pa. 1983); Williams v. Charles Sloan, Inc., 706 S.W.2d 405 (Ark. App. 1986); Precision Homes v. Cooper, 671 S.W.2d 924 (Tex. App. 1984); Maricopa County v. Walsh & Oberg Architects, 494 P.2d 44 (Ariz. App. 1972); Gadbois v. Leb-Co. Builders, 458 A.2d 555 (Pa. 1983); Williams v. Charles Sloan, Inc., 706 S.W.2d 405 (Ark. App. 1986); Precision Homes v. Cooper, 671 S.W.2d 924 (Tex. App. 1984).

was reached in the final pattern of sixteen cases involved unfinished work or incomplete performance. Most of these cases involved commercial tenants–including lessees holding mining or mineral rights– who failed to return or restore property as required at the end of a lease term.[42] The buyer in each case requested cost of completion damages based on the ex post market price for the restoration services. The seller, in turn, was again able to show that completion costs would greatly exceed the market delta. In fourteen (or 87.5%) of the sample cases, the court followed the *Peevyhouse* rule and limited the plaintiff to market delta damages.[43] This result is contrary to the conventional wisdom that in this last class of cases the courts frequently award cost of completion damages because there was a material failure of performance by the seller.[44]

The award of cost of completion damages in the first category of cases is unremarkable. When "economic waste" evidence is absent and there is a market for the contract goods or services, cost of completion damages accurately measure the buyer's true expectation loss. As said above, a court can apply this measure if it knows only the contract price and the ex post market price, both of

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[42] See e.g., American Standard v. Schectman, 80 A.D. 2d 318 (1981). American contracted with Schectman to sell all of the fixtures and improvements on its property so that the land could be graded and offered for sale. Schectman agreed for $275,000 to remove the improvements etc., from the land and grade the property. The intent of the demolition and grading was "to provide a reasonably attractive vacant plot for resale." Schectman subsequently discovered that some improvements were well below ground level and would cost substantially more to remove than anticipated. Schectman paid the $275,000, removed the improvements above the ground, and graded the land without removing the below ground improvements. Schectman's failure to grade the land as specified reduced the market value of the land by less than $3,000. American claimed cost of completion damages estimated at $110,500, and was ultimately awarded $90,000 in damages (plus interest and costs).

[43] See e.g., Schneberger v. Apache Corp., 890 P.2d 847 (Okla. 1994); Youngs v. Old Ben Coal Co., 243 F.3d 387 (7th Cir. 2001); Dimick v. J.K. Noonan, 242 S.W.2d 599 (Mo. App.1951); P.G. Lake, Inc. v. Sheffield, 438 S.W.2d 952 (Tex.Civ.App.1969); Avery v. Fredericksen & Westbrook, 67 Cal.App.2d 334, 154 P.2d 41 (1944); Ceres Terminals, Inc. v. Chicago City Bank and Trust Co., 635 N.E.2d 485, 259 Ill.App.3d 836 (1994); Ruddach v. Don Johnston Ford, Inc., 621 P.2d 742 (Wash. App. 1980); Missouri Baptist Hosp. v. U. S., 555 F.2d 290 (Ct. Cl. 1977); Bowes v. Saks & Co., 397 F.2d 113 (7th Cir.1968); Asp v. O'Brien, 277 N.W.2d 382 (Minn. 1979); Ideal Pool Corp. v. Hipp, 370 S.E.2d 32 (Ga. App. 1988); Freeman v. Maple Point, Inc., 574 A.2d 684 (Pa. 1990); Seago v. Fellet, 676 P.2d 1224 (Colo. App.1983); Muroff v. Dill, 386 So.2d 1281 (Fla. App. 1980).

[44] Most texts characterize the case authority as divided, implying that cases such as American Standard v. Schectman, 439 N.Y.S. 2d 529 (1981) and Groves v. John Wunder, 163, 286 N.W. 235 (1939) are equally numerous as cases such as *Peevyhouse*. See FARNSWORTH, CONTRACTS supra § 12.10; JOHN E. MURRAY, JR., MURRAY ON CONTRACTS, §118 (4TH ED. 2001). Modern Contracts casebooks are to the same effect. See, e.g., ROBERT E. SCOTT & JODY S. KRAUS, CONTRACT LAW AND THEORY 878-880 (4TH ED. 2007). Indeed, the Tenth Circuit awarded cost of completion damages to an Oklahoma lessor suing the lessee for breach of a reclamation clause on the grounds that they could not believe the Oklahoma courts would continue to adhere to *Peevyhouse.* Rock Island Improvement Co. v. Helmerich & Payne, Inc., 698 F. 2d 1075 (10th. Cir. 1983). Thereafter, the Oklahoma Supreme Court affirmed and extended the *Peevyhouse* decision. Schneberger v. Apache Corp., 890 P. 2d 847 (Okla. 1994).

which commonly are recoverable.[45] Moreover, assuming that expectation damages are the theoretical baseline, principles of mitigation also support cost of completion recoveries in the mine run of cases, since ordinarily the cost to complete will be less than its value to the owner.

The other three patterns have more interesting implications. First, the willingness of courts to adopt a cost of completion rule when the breach involves work that demonstrably has aesthetic value tends to undercut the implicit assumption that the market delta measure better approximates true losses in economic waste cases. Disagreements over defective brick veneer,[46] or a new roof of red barrel tile,[47] or air conditioning in southern climates[48] support inferences that the buyer's valuation exceeds the ex post market value and thus rebut any assumption that valuation is accurately measured by the market delta.[49] But as we show below, the inference that the buyer's valuation exceeds the market's valuation is not limited to cases where aesthetic considerations are obvious. Rather, it is implied from the buyer's decision to contract for repair or restoration services ex ante rather than purchasing those services on the spot market ex post.

The results of the sample are also significant in confirming that the rule of *Jacob & Youngs v. Kent* is widely adopted: When the seller has tendered a substantially completed but defective performance, courts reject market damages in favor of the market delta measure *even where there is a good market for substitutes ex post.* As noted above, in the "substantial performance" context the judicial intuition is that a cost of completion award would overcompensate buyers. Consequently, the legal right to these damages might invite buyers to

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[45] See e.g., Magnus Homes, LLC v. DeRosa, 545 S.E. 2d 166 (Ga. App. 2001) (noting that a market damages measure rests on more readily verifiable evidence than the opinion of experts regarding hypothetical changes in market value).

[46] Carter v Quick, 263 Ark 202, 563 S.W. 2d 461 (1978).

[47] Gory Associated Industries, Inc. v Jupiter Roofing & Sheet Metal, Inc., 358 So. 2d 93 (Fla. App. 1978).

[48] Edenfield v Woodlawn Manor, Inc., 62 Tenn. App. 280, 462 S.W.2d 237 (1970).

[49] For discussion of the undercompensation of buyers with subjective value under the market delta rule, see Peter Linzer, *On the Amorality of Contract Remedies – Efficiency, Equity, and the Second Restatement,* 81 Colum. L. Rev. 111, 117-8 (1981), and Timothy Muris, *Cost of Completion or Diminution in Market Value: The Relevance of Subjective Value,* 12 J. Legal Stud. 379, 382-83 (1983).

demand costly demolition to rectify errors that only minimally affect value as a prelude to bargaining for a side payment from the seller. The courts fail to remark, however, that the buyer had paid for a performance that was not provided.[50] In none of the sample cases did the court order a restitution of the buyer's prepayment in addition to the award of market delta damages.[51] Similarly neglected was the issue of whether cost-effective precautions could have reduced the risk of excessive ex post repair costs. Rather, the courts adhered to the common rule that the ex ante actions of the seller were not relevant in determining the damage award unless the evidence showed that the seller's breach was "wilful" or in "bad faith."[52]

Cases that award market delta damages in the final category are even more difficult to reconcile. Most courts limit plaintiffs to market delta damages when a promisor fails to perform a

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[50] A recent objection to awarding cost of completion damages in economic waste cases is that the remedy generates unnecessary transaction costs. See. e.g., the analysis of Judge Posner in Youngs v. Old Ben Coal Co., 243 F.3d 387 (7th Cir. 2001):

> [The buyer] would not be entitled to the specific performance of cost of completion. The [buyer] is seeking, but not wanting, specific performance. If he obtained the relief he is seeking, that would just be a prelude to a further negotiation with [the seller]. [The buyer] does not want nonproducing wells; he wants money to compensate him for a loss that he has not sustained, since the restoration of the wells would have value for him only if there were oil left in the ground. The essentially extortionate transaction, a source of transaction costs not offset by any social benefit for which an order of specific performance would have set the stage, is another compelling objection, though less to the claim underlying the suit than to the relief sought, the grant of which would be inequitable.

Id. at 392. The model in Part III below excludes renegotiation because the value the buyer places on performance may be unobservable by the seller. In these cases, bargaining is costly and may never yield a mutually acceptable result. Parties in this circumstance commonly are assumed to go directly to their disagreement option, which here would be to have a court apply the legal remedy. Our concern is with what that remedy should be. Further, an implicit premise of Judge Posner's position is that cost of completion damages serve no useful function when they greatly exceed the market delta. Part IVB below shows, to the contrary, that those damages deter inefficient seller failures to perform parts of the deal, and that any ability of the parties to renegotiate will not vitiate this deterrent effect. These results imply that renegotiation costs should not count against an award of cost of completion damages.

[51] See cases cited in note —supra.

[52] See e.g., Groves v. John Wunder, supra note —. (reversing the trial court's judgment for $12,160, holding that, owing to the wilful character of the lessee's failure to level the property as promised in the lease, the owner was entitled to recover the ex post restoration cost of $60,000); Roudis v. Hubbard, 574 N.Y.S. 2d 95 (1991) (applying the cost of completion measure where the contractor had intentionally omitted certain construction elements–styrofoam insulation and footing drains–that were required by the plans; Shell v. Schmidt, 330 P.2d 817, 164 Cal.App.2d 350, (Cal. App. 1958) (noting that "good faith" or "lack of wilfulness" must be proven in order to utilize the substantial performance rule and the "value" measure of damages.); H.P. Droher and Sons v. Toushin, 85 N.W.2d 273, 250 Minn. 490 (1957) (distinguishing *Groves v. Wunder*, as being based on bad faith by contractor).

contractual obligation to restore property at the termination of a lease. Why do courts overwhelmingly deny the claim for cost of completion damages even where there was an available market ex post for purchasing the restoration or other contract services? Part of the explanation is doctrinal. Most courts in reclamation and restoration cases cite with approval the "economic waste" rationale that *Jacobs & Youngs* and its progeny have promulgated.[53] In the case of non-performance, where no existing work must be demolished, the doctrinal formulation is modified. Courts hold that the market delta measure governs where the award of completion cost damages would provide "no economic benefit" to the plaintiff or would be "unreasonably disproportionate" to the loss that was occasioned by the breach.[54]

Underlying both the substantial performance and the non-restoration cases, therefore, is the assumption that cost of completion damages will unjustly enrich a buyer whose true loss is better measured by the reduction in the market value of the property. In short, the courts assume that awarding market delta damages rather than the cost of completion would better vindicate the rationales supporting the compensation principle of contract damages. We show below, however, that this assumption is incorrect. Moreover, the concern to avoid a windfall may cause courts to slight other issues embedded in the cases. The point to be made next, however, is that the market delta rule is mandatory. Parties cannot agree in the ex ante contract to stipulated damages when the buyer's valuation for performance is expected to be high.

C. The Inability to Opt Out of the Market Delta Rule

No damage measure is optimal for all parties. This implies that the damage rule –whether cost of completion or diminished market value--should be a default. To argue for a default, however, is to raise the concern that courts tend to regard state-created defaults as presumptively fair or efficient;

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[53] See e.g., Tru-Built Garage and Lumber Co., Inc. v. Mays, 1993 WL 15664 (Ohio App. 1993) and cases cited in note —supra.

[54] See e.g., Hansen v. Andersen, 246 Iowa 1310, 71 N.W.2d 921 (1955); Tru-Built Garage and Lumber Co., Inc. v. Mays, 1993 WL 15664, *4 (Ohio App. 1993); Freeman v. Maple Point, Inc., 574 A.2d 684 (Pa. 1990); Asp v. O'Brien, 277 N.W.2d 382 (Minn. 1979).

this institutional bias raises the cost of contracting out.[55] But putting aside the question of whether all default rules are sticky, there is a more fundamental concern: the market delta measure is effectively a mandatory rule. To see why, note first that the market delta rule applies notwithstanding explicit contract language that obligates the seller to bear the entire cost of repair or restoration. Indeed, there is substantial evidence that parties prefer cost of completion damages, both in the construction cases exemplified by *Jacob & Youngs v. Kent,* and in restoration cases of the kind illustrated by *Peevyhouse v. Garland Coal Co.*[56]

Moreover, buyers are effectively precluded from protecting this contractual assignment of risks with a liquidated damages clause. Assume, for example, that the buyer in a case such as *Jacob & Youngs v. Kent* would realize substantial subjective or surplus value from performance. As a consequence, the buyer elects to opt out of the diminished value default in favor of stipulated damages greater than the market delta. Contract doctrine enforces stipulated damages that vary from the chosen default rule only if the court finds both that it would be difficult to verify the

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[55] See, e.g., Hayward v. Postma, 312 Mich. App. 720, 724, 188 N.W. 2d 31,33 (1971) (parties must use clear and unequivocal language to shift liability for risk of loss from seller to buyer); Caudle v. Sherrard Motors Co., 525 S.W. 2d 238, 240 (Tex. Civ. App. 1975) (same); Davis v. Small Business Inv. Co., 535 S.W. 2d 740, 744 (Tex. Civ. App. 1976) (contractual provision purporting to allocate to debtor the burden of "all" expenses incurred in preserving collateral not an "agreement otherwise" sufficient to opt out of UCC §9-207(2)(a)). Moreover, judicial interpreters may be reluctant to give the express language of the contract a meaning that conflicts with the relevant default. See Nanakuli Paving & Rock Co. v. Shell Oil Co., 664 F.2d 772 (9th Cir. 1981) (merger clause that excludes evidence of prior dealings does not bar evidence of usage of trade to alter the price term in the contract). For discussion, see Charles J. Goetz & Robert E. Scott, *The Limits of Expanded Choice: An Analysis of the Interaction Between Express and Implied Contract Terms*, 73 Calif. L. Rev. 261 (1985).

[56] See e.g., the standard form AIA Contract, General Conditions of the Contract for Construction, Document A-201(1997). Section 12.2.1 provides

> "The Contractor shall promptly correct Work…failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. *Costs of correcting such rejected Work, including additional testing and inspections and compensation for the Architect's services…shall be at the Contractor's expense.* [emphasis added].

Similarly, commercial leases commonly contain restoration clauses that expressly obligate the seller to bear the costs of restoration at the conclusion of the lease. Se e.g., the restoration clause in the Founders Tower Office Lease between Hebron Communications Corporation and Amerivision Communications, Inc., available at Univ. of Mo. –Columbia, Contracting and Orgs. Research Inst., CORI Contract Library, http://ronald.cori.missouri.edu/cori_search/

"**3. <u>Ownership; Removal; Restoration</u>.** Tenant shall remove any' trade fixtures, furniture, moveable equipment and other personal property upon the expiration or termination of the Term…. A*fter removing any property from the Premises, which Tenant is permitted to remove, Tenant shall promptly, at its expense, repair or restore any damage to the Premises caused by the removal."* [emphasis added]

promisee's loss ex post and that the stipulated damages are a reasonable estimate of that loss.[57] Since a buyer's subjective value in excess of the objective market values is generally not verifiable, and thus is not recognized as a "loss," the courts are likely to strike down as a penalty any damage term that measurably increases the seller's liability beyond the market delta measure.[58] Unless parties can find alternative ways to protect their surplus value or to assign the risk of ex post completion costs to the seller, the market delta default thus operates effectively as a mandatory rule.[59]

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[57] See e.g., Charles J. Goetz & Robert E. Scott, *Liquidated Damages, Penalties and the Just Compensation Principle*, 77 Colum. L. Rev. 554, 556 (1977) (noting that subjective value that departs from market value cannot be protected by a legally enforceable liquidated damages clause).

[58] Id. at 572-4. In applying the penalty rule, the overwhelming majority of courts have held that value to the buyer does not include any merely sentimental or fanciful value attached to the property by the buyer. Mieske v. Bartell Drug Co., 593P.2d 1308 (Wash. 1979); St Louis F.R.Co. v. Kittrell, 208 Okla. 147, 149, 253 P.2d 1076, 1078 (1953); Spirito v. Bristol County Water Co., 102 R.I. 50, 54, 227 A.2d 782, 784-5 (1967). See also Nelson v Leo's Auto Sales, Inc., 158 Me 368, 374, 185 A. 2d 121, 124 (1962) (error to permit plaintiff to testify as to the "value to me at this time" of an automobile). Thus, courts have consistently struck down liquidated damages clauses in construction contracts where the loss to the buyer is subjective. For example, in Muldoon v. Lynch, 66 Cal. 536, 6 P. 417 (1885), the plaintiff agreed to erect a marble monument over the grave of the defendant's husband for $18,788, the contract providing for liquidated damages of $10 per day for delay in completion. In declaring the agreement void as a penalty, the court concluded:

> There is nothing in this case to indicate that the defendant has suffered and *actual damage which can be measured or compensated in money...*It has been generally held that the party in whose favor the penalty or forfeiture exists must prove his damage. In the case before us there is not claim of special damages; it might have been quite difficult for the defendant to show any damage of a pecuniary nature for the non-completion of the monument at the time specified, *though its completion might have been of great comfort and consolation to her affectionate remembrance.*

Id. At 539-40 (emphasis added).

In City of Rye v. Public Serv. Mut. Ins. Co., 315 N.E. 2d 458, 358 N.Y.S. 2d 391 (1974) an agreement for $100 per day and $100,000 maximum for delay in completion of a building complex was held void as a penalty. The court found that the harm that the city contends it would suffer by delay was speculative, or simply non-cognizable: "the most serious disappointments in expectation suffered by the city *are not pecuniary in nature and therefore not measurable in monetary damages."* See also, Security Safety Corp. v. Kuznicki, 350 Mass. 157, 213 N.E. 2d 866); Corco Constr. Co. v. Stein, 256 Minn. 476, 99 N.W. 2d 69 (1959); Norman v. Durhem, 380 S.W. 2d 296 (Mo. 1964).

[59] We do not claim that it would be impossible for a creative contract drafter to design a clause that protects a buyer's subjective or idiosyncratic value in the contract performance. We do claim that the penalty doctrine imposes a significant litigation risk on parties who attempt to contract out of the market delta rule because the doctrine fails to acknowledge the legitimacy of subjective value as a compensable "loss. This risk is higher than the litigation risk that obtains in contexts in which liquidated damages clauses are readily enforced – for example, in the case of delay damages in the normal commercial contract. There the objective loss is hard to determine ex ante and courts are willing to defer to "reasonable" ex ante forecasts. On the other hand, in the class of cases we consider, the objective value–the benefit of performance in market value terms --is not difficult to establish. The problem, as the cases in note 56 supra attest, is that by not treating subjective value as a legitimate "loss" by the buyer, the penalty

Some scholars have suggested that a buyer can protect hard to prove values by requiring his seller to issue a performance bond.[60] Then, it is claimed, the seller's failure to restore or repair could be addressed by having the surety on the bond either complete performance or pay the monetary sum specified in the bond. Chakravarty and MacLeod thus argue that the construction damages "problem" is efficiently solved by the industry standard: the American Institute of Architects [AIA] form contract between owners and contractors.[61]

This claim is not support by the standard form AIA contract terms, however. Section 11.5.1 of the General Conditions for the Contract of Construction provides that the "owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the contract."[62] AIA document A312 specifies the surety's obligations under the standard performance bond following the contractor's material default: the surety is obligated up to the limit of the amount of the bond (the "penal sum") to either (a) arrange for the contractor to complete the work, (b) complete the contract itself by hiring another contractor, or c) pay the owner the *"amount of damages ...resulting from the contractor's default."*[63] In light of these contract terms, the surety's responsibility can be discharged if it either pays any legally enforceable liquidated damages *or* any actual damages caused by the contractor's breach.

The duties of the surety under a performance bond thus are measured by (and limited by) the contractual obligation of the contractor.[64] If the contractor were able to contest a liquidated damages provision as being void under the penalty rule, than so can the surety. Similarly, the measure of "actual damage" for which the surety is liable is limited to the legal damages measure.

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rule threatens as unreasonable any ex ante estimate that departs significantly from the market delta–the objective measure of the buyer's loss.

[60] See Surajeet Chakavarty & W. Bentley MacLeod, *Contracting in the Shadow of the Law* (mimeo 2008).

[61] Id. See generally, AIA Document A101, A201 et seq (1997).

[62] AIA §11.5.1 (1997).

[63] AIA Document 312 §§ 4.1, 4.2 4.3. (Emphasis added). Section 4.3 refers to §6 in determining the amount of damages owed. Section 6.3, in turn, provides for the payment of liquidated damages if specified or, in the absence of liquidated damages, "actual damages caused by delayed performance or non-performance of the Contractor."

[64] U.W. Marx, Inc. v. Montbatten Sur. Co., Inc., 770 N.Y.S. 2d 777 (App. Div. 2004).

If market delta damages are awarded in these cases, the performance bond does not permit the owner to opt out. Indeed, a number of courts have held that the surety's liability under a performance bond is limited by common law contract damages principles, among them being the doctrine of economic waste.[65]

In sum, given the limitation imposed on contracting parties by the penalty doctrine, the market delta default effectively operates as a mandatory rule limiting the buyer to the reduction in ex post market value caused by the breach. Moreover, the common law penalty rule is asymmetric: The rule only constrains clauses that purport to overcompensate the breached against party;[66] it does not similarly constrain attempts to underliquidate damages.[67] Provisions for limiting damages thus have traditionally been subject only to the familiar process constraints of fraud, duress and unconsionability.[68] These constraints would not operate in the great majority of cases represented by our sample. The buyers in our sample are generally unsophisticated, non-professional individuals contracting with professional firms that are repeat players in the market.[69]

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[65]See e.g., Grossman holdings Ltd. v. Hourihan, 414 So. 2d 1037 (Fla. 1982); Forsythe v. Starnes, 554 S.W. 2d 100 (Mo. App. 1977); Fidelity and Deposit Co. of Maryland v. Stool, 607 S.W. 2d 17 (Tex. Civ. App. 1980); American Employer's Ins. Co. v. Huddleston, 39 S.W. 2d 952 (Tex. Civ. App. 1931). In addition to limiting the surety's liability where the contractor is in material breach of the contract, courts have also held that the surety's liability is discharged once the contractor has substantially performed the contract. L &A Contracting Co. v. Southern Concrete Services , Inc., 17 F.3d 106 (5th Cir. 1994). (holding that "default" under an AIA Document 311 bond means a substantial default warranting termination of the bonded contract). Thus, the performance bond offers no help to owners in the position of the owners in *Jacob & Youngs v. Kent*.

[66] See e.g., UCC § 2-718 (1) "A term fixing *unreasonably large* liquidated damages is void as a penalty."[emphasis added]

[67] See e.g., Personal Fin. Co. v. Meridith, 350 N.E. 2d 781 (1976); Shaer Shoe Corp. v. Granite State Alarm, Inc., 262 A.2d 285 (1970); ARTHUR CORBIN, 5A CORBIN ON CONTRACTS § 1068 (" Public policy may forbid the enforcement of penalties against a defendant, but it does not forbid the enforcement of a limitation in his favor.... Where a contract provides that damages for breach shall not be recoverable beyond a specific sum, it is obvious that the risk of loss beyond that sum is being assumed by the promisee. If the law allows him to assume the whole risk, with no remedy whatever, it is obvious that it will allow him to assume a part less than the whole."). For discussion, see John Sweet, *Underliquidated Damages as Limitations of Flexibility,* 33 Tex. L. Rev. 196 (1954).

[68] UCC § 2-718 Comment 1 (" a term fixing unreasonably large liquidated damages is expressly made void as a penalty. An unreasonably small amount ...might be stricken under the section on unconscionable contracts or clauses.")

[69] See e.g., Vezina v Nautilus Pools, Inc. 27 Conn. App. 810, 610 A.2d 1312 (1992) (individual home owner); Wells v Minor, 219 Ill. App. 3d 32, 578 N.E.2d 1337 (1991)(same); Lyon v. Belosky Const. Inc., 247 A.D.2d 730, 669 N.Y.S.2d 400 (3d Dep't 1998) (same); Grossman Holdings Ltd. v. Hourihan, 414 So.2d 1037 (1982) (same); J.G. Jansen, Inc., v. Rilling, 203 Wis. 193, 232 N.W. 887 (1930) (same); Hansen v. Andersen, 246 Iowa 1310, 71

Therefore, the rule would not preclude parties from opting out of a universal cost of completion default and negotiating a term in the ex ante contract that limited the seller's damages to the market delta.

The preceding analysis answers the positive questions posed above. It shows that the economic waste doctrine is not limited to a few isolated textbook examples. Rather, contemporary courts commonly award diminished market value damages whenever the ex post market price of the contract service is substantially greater than the market delta.[70] This rule applies both when sellers fail to repair defective work and when sellers fail to restore the buyer's premises as promised. In addition, unlike cost of completion damages, the market delta rule is a mandatory rule, in effect if not in law, because of the binding constraints of the penalty doctrine. In the next two parts, we turn to the normative question: Given the realities "on the ground," which measure is superior to the other on both efficiency and fairness grounds?

III. A MARKET DAMAGES MODEL

We begin the analysis of the economic waste doctrine by first considering the efficiency properties of the market damage measure (of which cost of completion is a subset). The sample cases we examined in Part II typically involved bundled contracts where the buyer has prepaid for the contract service. But to generalize the analysis we begin by first assuming that the buyer has not prepaid. To understand why, recall that market damages award the buyer the difference between the price of a substitute and the price of the contracted performance.[71] These damages thus rest on the implicit premise that the buyer will cover when cover would be efficient. This

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N.W.2d 921 (1955) (granary for individual farmer); Dimick v. J.K. Noonan, 242 S.W.2d 599 (Mo.Ct.App.1951) (regrading individual farmer's land). But see, Rock Island Improvement Co. v. Helmerich & Payne, Inc., 698 F.2d 1075 (10th Cir.), cert. denied, 61 U.S. 944 (1983) (commercial lessor/owner sues for breach of promise to regrade) and Fort Wallin of Lake Tahoe, Inc. v Commercial Cabinet Co.,784 P.2d 954 (Nev. 1989) (owner is incorporated resort).

[70] Recall that contracts where there is credible evidence of aesthetic value are the noteworthy exception to the conclusion that the market delta measure has emerged as the majority default in economic waste cases. See TAN infra.

[71] Contracts that involve credible evidence of aesthetic value are the noteworthy exception to the conclusion that the market delta measure has emerged as the majorit y default in economic waste cases. See TAN, infra.

premise, in turn, is more likely to hold when the buyer either has not prepaid the contract seller or gets restitution of the contract price from her. In Part IV, we analyze cases where the buyer has prepaid but restitution of the contract price is administratively unfeasible. Courts can effect restitution in these cases, and thereby apply the market damage measure, only by awarding buyers the cost of completion: the full ex post market price of the contracted performance. The argument made in Part III for market damages carries over to the cases we consider in Part IV but these cases merit separate consideration.

We make one further clarifying remark. In analyzing the market delta measure, we assume that buyer values are unverifiable. When buyer values are verifiable, courts award direct expectation damages – the difference between value and contract price. Therefore, the market delta measure only applies when the value a buyer would have realized from performance is unverifiable.

The model we introduce in Part III analyzes the performance of market damages on the three efficiency goals of contract law: efficient trade, efficient investment and efficient contracting. We show that (a) parties trade efficiently under market damages; (b) using the market delta rule rather than awarding market damages in all cases misallocates resources because it causes sellers to enter the market in inefficiently large numbers; (c) market damages do not impair investment incentives;[72] and (d) protecting the expectation with market damages maximizes the probability that parties will make efficient contracts.

A. The Model's Assumptions

A set of sellers provide a service. Each seller incurs a fixed cost, denoted F, and produces the service at a constant marginal cost of c over some range [0, z], and at an infinite marginal cost thereafter. Hence, z is the seller's "capacity constraint." Price equals cost in competitive markets,

[72] Standard contract theory results hold that no damage measure always yields efficient investment, and the direct expectation damage measure sometimes undermines investment incentives. The market damage measure does not condition on the parties' investment actions, and so it cannot further impair their investment incentives.

so the competitive price for the service is $p^* = \frac{F}{z} + c$. A portion of the price covers the seller's fixed costs; the rest covers her marginal costs.[73]

Buyers and sellers make contracts at t^0. When contracts are made, sellers know only the distribution from which their marginal cost c will be drawn and, similarly, buyers know only the distribution from which their market value of a seller's performance will be drawn. At t^1, the parties learn their costs and values for the relevant market period (i.e., each seller takes one draw from the cost distribution and each buyer takes one draw from the value distribution). At t^2, sellers who have decided to perform the contracted service tender performance and buyers either accept and pay the contract price or breach and pay market damages. If a seller breaches, her buyer seeks market damages. When the market value to the buyer of the breaching seller's performance would have been much below market damages, she asks the court to restrict her buyer to the market delta, denoted Δ_m. We first analyze the case when courts refuse this request and award market damages, and then the case when courts grant the seller's request and award only the market delta. Sellers and buyers are risk neutral and there is free entry to the market.[74]

For convenience, we assume that a seller's marginal costs are distributed uniformly on the unit interval. This means that each marginal cost realization is equally likely and that realized marginal costs lie between zero and one. To simplify computation, we let the fixed cost element of the price, F/z, equal 1. The competitive price thus is 1 + c.

Each buyer whose expected valuation exceeds the competitive price signs a contract to purchase one unit of the relevant service. For example, the contract unit requires the seller to restore a plot of land. A buyer's value for this service unit is composed of two elements. First, the seller's performance may affect the market value of the buyer's property. A nonconforming

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[73] We assume that markets are competitive because the markets in the cases appear to be. Also, a competitive equilibrium is unique; hence, assuming that markets are competitive permits us to compare market damages to the market delta under the same conditions. The set of possible noncompetitive equilibria is very large, so relaxing our competitive market assumption would greatly complicate the analysis without yielding much additional insight.

[74] This assumption holds that a new seller can provide the service at the incumbent sellers' costs.

performance leaves this value unchanged at an assumed value of 1. Possible increases in market value above one are assumed to be uniformly distributed between [1, 2].[75] Second, buyers may realize a surplus above any increase in market value due to the seller's performance. Formally, the buyer expects to value her seller's performance at $\text{б}v_m$, where v_m is the market value the buyer's property would have if the seller performs and $\text{б} \geq 1$. Hence, $\text{б}v_m$ is the full gain, gross of the contract price, that the buyer expects to realize.

Courts observe market values but neither courts nor sellers observe б. As a consequence, the value a buyer places on performance is private information.[76] Values and marginal costs are purely stochastic (i.e., not within a party's power to affect). This assumption is relaxed later.

There are $N > 0$ buyers and $M > 0$ firms.[77] Equilibrium in this model is defined by the buyer/seller ratio, $\lambda \equiv N/M$, and the contract price such that (a) all firms earn zero expected profits (this follows from the free entry condition); and (b) no firm could profitably make fewer sales (i.e., sell to less than λ buyers). This second condition holds that expected supply – the number of contracts a firm is prepared to offer – equals expected demand – the number of buyers that is

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[75] A market cannot form unless buyers expect to earn returns that exceed sellers' costs. Since the seller's fixed cost is one, assuming that buyer market values are one or more thus makes the problem nontrivial. Further, assuming that the buyer's market value is bounded from below by one holds that a seller's performance cannot have negative expected value. Thus, if the seller agrees to construct a shed on the buyer's land, the shed may increase the land's market value, but is expected not to decrease its value. This assumption is meant to exclude weird cases in which buyers purchase services that likely will reduce the value of their property. The results below hold for any distribution but the uniform is easy to work with.

[76] For example, if the market value of the buyer's property would have been 1.6 if the seller performed and б = 1.25, the actual value of the seller's performance to the buyer would have been 2.0. A court and the seller only know that the buyer's actual value would have been at least 1.6. The assumption that б is private information is made for three reasons. The first is realism. The sellers we consider offer services to a heterogeneous set of buyers. A seller, for example, may construct buildings for disparate individuals and firms. She is unlikely to know the valuations of most of these buyers. The second reason is that renegotiation is difficult when information is private. We are interested in the efficient default, and so want largely to abstract from renegotiation. For further motivation along this line, see note 50, supra. Third, the court can observe market values so if the court also can observe б, then the court would know the buyer's actual value. In this event, the court could award direct expectation damages.

[77] Market damages presuppose a market. Thus, we analyze market performance. When there is considerable heterogeneity in supply, controversy can exist as to whether a buyer's substitute purchase would be sufficiently "like" the contracted service so that the contract price/market price formula is appropriate. In such cases, direct expectation damages or specific performance may be more apt. We abstract from these difficulties by assuming considerable homogeneity in supply. For example, one plumber is much like another plumber. Our analysis applies only in these domains.

expected to visit the firm. When this condition is satisfied, the number of firms in the market is bounded at M. A new entrant would expect to sell to less than λ buyers; this would yield negative expected profits when the expected profits of incumbent firms are zero at λ demand.[78]

Turning to prices and possible gains, the expected value of one draw from a distribution that is uniformly distributed between zero and one is ½.[79] Since price equals expected cost in a competitive market, the contract price of the service is $p_k * = \frac{F}{z} + c = 1 + c = 1 + \frac{1}{2} = \frac{3}{2}$. The market value of a seller's performance is uniformly distributed on [1, 2]; hence, the expected market value of performance to the buyer is $\frac{3}{2}$. A buyer's total expected value – б(3/2) – exceeds 3/2 because б is assumed to exceed one. Hence, buyers have an incentive to enter the market.

B. Damage Measures and Ex Post Efficiency

We initially show that parties will trade efficiently under market damages with the following example.[80] Let a seller's marginal costs turn out to be either "low" or "high." Low costs are assumed to be 1/3 and high costs are 2/3. When marginal costs are low, the ex post market price, which equals the seller's cost to perform, is 1 + 1/3 = 4/3, which is less than the contract price of 3/2. Sellers therefore tender performance. Buyers realize a gain in market value from performance of v_m, so a particular buyer's realized value is $б_i v_m$ (i є [1, ... N]), which we denote v_i. Buyers with valuations above the contract price of 3/2 will accept and pay for the service voluntarily. A buyer whose realized value for the service is below 3/2 must pay the seller damages of the contract price less the ex post market price, or 3/2 - 4/3. The anticipation of a damage award

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78 To be precise, posit a consumer firm ratio of η < λ. Then if a market seller earns zero profits when her revenue is p*λ, a new entrant must expect to earn p*η < 0.

79 Formally, for a uniform distribution, U ~ [0,1], the order statistic is that the largest of n draws has expectation $\frac{n}{n+1}$. Since each seller is assumed to take one draw from the marginal cost distribution (n = 1), the largest marginal cost value is expected to be one half, which implies that the smallest value also is one half. Thus, the expected value of a single draw – of the seller's marginal cost – is one half.

80 A proof follows the example.

therefore will compel a disappointed buyer to trade if and only if $\frac{3}{2} - v_i < \frac{3}{2} - \frac{4}{3}$, where the left hand side is the buyer's loss from trade and the right hand side is the seller's market damages. The inequality holds only when $v_i > 4/3$, which is the seller's cost. The market damage remedy thus yields ex post efficiency: buyers whose realized values exceed the seller's cost trade and the remainder pay damages of 3/2 - 4/3 = 1/6 = .17.

Suppose next that sellers realize the high marginal cost of 2/3. The ex post market price becomes 5/3, which exceeds the contract price of 3/2, so every seller prefers to breach her contracts. Market damages for the buyer are the ex post market price of 5/3 less the contract price, or 5/3 - 3/2 = 1/6. Again letting a buyer's value be $\sigma_i v_m = v_i$, buyers trade – i.e., purchase a substitute performance – if and only if $(v_i - 5/3) + 1/6 > 1/6$. The first term on the left hand side is the net gain the buyer makes when he buys a substitute and the second term is market damages. Thus, the left hand side is the profit the buyer would make if he covered and sued for damages. The right hand side term is the market damages the buyer would get if he sought them but did not purchase a substitute. The inequality is satisfied – the buyer covers – only if $v_i > 5/3$. Since the seller's cost is 5/3, market damages again yield ex post efficiency: only buyers with realized values above sellers' costs trade. The remaining buyers sue for damages but do not cover.

The example also shows that market damages will not produce "economic waste." First consider the low cost case, in which sellers perform. Buyers breach when their valuations lie on the interval [0, 4/3]. Let the total number of such buyers in the market be Q. Recall that each firm made contracts with $\lambda = N/M$ buyers. Given breach, at t^2 each seller can trade with (N - Q)/M buyers. Thus, the seller cannot replace a breached contract. Rather, she will collect damages and put the monetary award to an alternative use. Now consider the high cost case, in which sellers breach because their cost of performance exceeds the contract price. We have just shown that a buyer trades in this case (by purchasing a substitute performance on the market) if and only if his value from trade exceeds the cost of trade to a seller. The remaining buyers will sue but not cover.

The example works because *any* damage measure is consistent with efficient trade. To begin a proof, assume first that the buyer breaches the contract. Let the applicable damage

measure be fixed at an arbitrary value of "d". The seller trades -- i.e., resells -- when $(p_k - p_m) + d > d$. The left hand side of this expression sets out the gain the seller makes if she resells and seeks damages under the measure d. The right hand side of the expression is the seller's gain if she sues but does not resell. The expression simplifies to "trade when $p_k > p_m$". Recall that p_m, the ex post market price, equals the seller's cost. Thus, the seller trades if and only if the price exceeds her cost. Because d is just an arbitrary value, this result holds for any damage measure, from zero to infinity. The damage measure does not affect a seller's decision to trade. Assume next that the seller breaches. The buyer trades when $(v - p_m) + d > d$, or when $v > p_m$. Since p_m equals the seller's cost, the buyer also trades if and only if his value exceeds the cost of performance. Again, the damage measure does not influence the buyer's decision.

The intuition supporting these results is straightforward. Damages represent compensation for a sunk cost: the loss from breach. Sunk costs do not affect a maximizing party's forward looking decision. Thus, the decision by a party either to continue with her original plan by covering (or reselling), or to abandon her plan, is unaffected by the losses or gains that her counterparty's breach produced. Another way to put this point is that a party recovers damages (or not) whether she trades or she doesn't trade. Hence, she will trade only when trade at the current price would produce a positive expected gain.

The analysis in Part IIIB is meant to show how market damages work. We next use the example to illustrate the allocative inefficiency that results from the market delta rule, which awards market damages to sellers in all cases but denies market damages to buyers when the damages seem overcompensatory.

C. Allocative Efficiency

1. Under Market Damages Always.

Each seller in the example above makes contracts with λ buyers. In the low cost case, a seller expects to earn a total net profit of $.17\lambda$: the contract price less the cost of performance (3/2 - 4/3 = .17) from the fraction of contract buyers who perform, and damages of d = .17 from the remaining fraction of contract buyers who breach. In the high cost case, the seller expects to breach

and pay the difference between the ex post cost of performing the service less the contract price (5/3 - 3/2) to every contract buyer, thus realizing an expected loss of .17λ. Since the high and low cost cases are equally likely, a seller's total expected gain is λ[.5(.17) + .5(-.17)] = 0. Market damages thus satisfy the equilibrium condition that sellers expect to make zero profits. Though there is free entry, no more than M sellers will be in the market.

2. Under the Market Delta Rule.

Suppose that, when a seller breaches, buyers may recover only the diminution in market value when that diminution is much below market damages. The market delta for each buyer is $\Delta_m = v_m - 1$.[81] To formalize the market delta rule, let costs be high (5/3) so that sellers breach, and assume that buyers whose market values from performance are below one standard deviation from the mean can recover only Δ_m. When buyer market values are distributed uniformly on [1, 2], one standard deviation is 1.29.[82] Under this version of the market delta rule, the seller pays market damages to 70% of its buyers (those whose market values would increase by more than 1.29), and pays market delta damages to the remainder. In the high cost state, the seller thus expects to lose

$$-\lambda\left[.7(.17) + .3\int_0^{.29} v_m dv\right] = -\lambda(.144)$$

Under the market delta rule, therefore, a seller's total expected return from making contracts at the competitive price p_k* is positive: λ[.5(.17) + .5(-.144)] = .013λ > 0. The first term in brackets is the seller's expected gain in the low cost state; the second term is the seller's expected loss in the high cost state. The fact that sellers expect to earn positive profits with a market delta

[81] Recall that in the model a seller's performance can increase the buyer's market value from one to at most two. Hence, Δ_m must lie between zero and one. Perhaps a way to understand this aspect of the model is to suppose that the contract requires the seller to move by rendering a performance, and then "nature" moves by selecting a state of the world. The combination of the seller's performance, had it been rendered, and nature's actual choice determines the market value the buyer's property would have had but for the breach.

[82] For readers interested in where this value comes from, the uniform distribution is a beta distribution, which is a family of continuous probability distributions defined on the interval [0,1] and parameterized by two positive shape parameters, denoted by α and β. The variance of a beta distribution is given by $\frac{\alpha\beta}{(\alpha+\beta)^2(\alpha+\beta+1)}$. For the uniform distribution, α = β = 1. Hence, the variance is .083. The standard deviation is the square root of variance, or .29.

measure violates the equilibrium condition. Under market damages, demand at each firm equaled $N/M = \lambda$. An additional entrant (there is free entry) would sell to fewer than λ buyers. But under the market delta rule, a new firm could enter profitably at p_k* because there are positive expected profits to capture. Entry will occur until the marginal entrant would again expect to earn zero profits at the competitive price, but the new equilibrium buyer to seller ratio will fall below λ. The market has more firms than are necessary to sell to the N buyers.

The intuition behind this result is straightforward. An asymmetry is created when buyers with low market value realizations can recover from breaching sellers only the increase in market value that a seller performance would have created while sellers can recover market damages from every breaching buyer. Sellers then make greater gains when their costs turn out to be low than they expect to make losses when their costs turn out to be high.[83]

There are three inefficiencies when a market has too many firms. First, even though new entrants can sell the contract service at incumbents' costs when there is free entry, there commonly will be a cost to enter. For example, an outside firm must investigate the market in order to learn that there is a profit opportunity. This entry cost can be privately profitable to the new entrant when profits exist, but it is a social waste. Second, firms that enter the market likely will have been making zero profits elsewhere. Thus, the market delta rule misallocates resources. Firms will be induced to enter markets where they are not needed and to exit markets where their presence was necessary for competitive behavior. Third, when there are too many firms, each of them may be producing at less than the efficient scale.[84]

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[83] The analysis assumes a symmetric distribution of seller costs, such as the uniform or normal. Our results hold under any distribution, however. The key point is that the market delta rule truncates the seller's damage liability in the high cost state, regardless of the shape of the cost distribution, because the rule reduces the damages awarded to buyers with low value realizations. Whatever the relative magnitudes of the seller's loss in the high cost state and gain in the low cost state, the seller loses less under the market delta rule than under complete market damages. The market delta rule thus always creates an artificially high – that is, a state imposed – excess profit. It is this exogenously imposed and inescapable profit that drives the result that there will be excess seller entry.

[84] The market delta rule encourages seller entry but does not deter buyer entry. See note 87 infra. If firms in the market compete on price (Bertrand competition), then if some market firms would be operating at less than the efficient scale they may reduce price to forestall entry. To the extent that this occurs, the allocational inefficiency is moderated. It is more likely, given the competitive market assumption, that firms compete on quantity (Cournot competition). If so, the misallocation the text identifies stands unmodified. Both market firms and new entrants will charge p_k*, and there will be too many sellers. Part 4A below shows that the market delta rule does deter buyer entry when the buyer prepays and cannot recover back the price if the seller breaches.

D. The Investment Decision

The preceding analysis assumed that buyers did not invest in the subject matter of the contract. We now relax this assumption to let the buyer's realized value be partly a function of his efforts (his reliance actions) and a stochastic state variable (e.g., later demand for property such as the buyer's). When a competitive market exists and seller performances are homogenous, the buyer invests efficiently. As Part IIIB showed, the buyer trades in this case only when trade would be efficient. Hence the buyer will take into account that he will not trade in certain realized states of the world, and this will temper his reliance. When sellers supply services, however, it is realistic to assume that there is some heterogeneity in supply. Then direct expectation damages conceivably could induce buyers to overinvest but market damages could not. The buyer's payoff under market damages is a function of the ex post market price and the ex ante contract price. The buyer cannot affect either variable by actions he takes after the contract is made that would increase the value to him of the seller's performance. And since we have just shown that the seller will perform only when performance is efficient, the buyer will realize that his reliance expenses are losses to him in states of the world in which the seller breaches. Consequently, the buyer will rely until the expected gain, discounted by the possibility that there will be states in which the seller will not perform, equals the expected cost. This is the efficient amount of reliance.

E. The Decision to Contract

Though any damage measure is consistent with efficient trade, protecting the expectation interest is necessary for efficient contracting. To understand this conclusion, it is helpful to begin with some notation. The market price of the good or service at time t^0 is $p(t^0)$. If a buyer contracts at t^0, he pays the market price, so we let $p(t^0) = p_k$. The seller realizes her costs and the buyer realizes his valuation at time t^1; thereafter, at t^2, the market price adjusts so as again to equal cost. This price, as before, is denoted p_m. The parties expect, at t^0, that p_m will equal p_k.[85] We let $k > 0$ be a fixed cost to contract and, again as before, let d be the damage measure, where $0 \leq d \leq \infty$. Thus, on the assumptions so far, buyers will not contract. The expected contracting

[85]In an efficient market, the expected market price at any future time is equal to the current price plus an error term with mean zero.

gain is $v - p_k - k$. Since the buyer expects the t^2 market price, p_m, to equal p_k, the expected noncontracting gain is the larger $v - p_k$. The buyer does not contract because contracting is costly but yields no gain.

To motivate the buyer's decision to contract, therefore, the buyer must face the possibility of incurring "disruption costs" if the market price rises between t^0 and t^2.[86] The possibility of disruption costs arises when a buyer, as of t^0, expects to use the surplus from a time t^2 trade either to make a contribution to the reduction of fixed costs, to reward investors, or to finance another part of his business. The expected surplus, conditional on trading, is $v - p_k$: the buyer's expected t^2 value less the expected t^2 price. A buyer who does not contract can be "disrupted" if the seller fails to perform in states of the world in which the buyer will trade. The buyer earns $v - p_m$ from a trade, which is less than the expected surplus because sellers who are not contractually bound will refuse performance at the t^0 price – p_k -- when $p_m > p_k$. Hence, a buyer without a contract may have to make a lower contribution to other aspects of his business than he expected to make. He can be disrupted.

To be sure, a buyer without a contract will not be disrupted by any price increase. For example, the buyer can easily absorb the inability to make a deal at the expected price if the deal is small in relation to his business, or if the buyer lacks other opportunities that a large surplus could fund. Disruption costs thus are a function of the monetary gap between the expected surplus and its actual value, which is $p_m - p_k$, and the disruption loss per dollar of lost surplus, which is a function of the buyer's particular time t^2 circumstances. For convenience, we denote the buyer's expected disruption cost as $g = (p_m - p_k)x$, where x is a parameter representing the expected disruption loss per dollar lost.[87] Note that $g = 0$ if $p_m = p_k$; then the buyer's t^2 trading surplus equals his expected surplus. Disruption costs are at a maximum if $p_m = v$ because the buyer trades but earns no surplus. Finally, g becomes zero again when $p_m > v$. In these states, trading would produce a negative gain so the buyer does not trade.

[86] We introduced the concept of disruption costs, in a model where the buyer's value was fixed from the time of contract to the time of performance, in Alan Schwartz & Robert E. Scott, *Contract Theory and the Limits of Contract Law*, 113 Yale L. J. 541, 562-565 (2003).

[87] Formally, $x \varepsilon [o, x_{\max}]$. The larger is x, the greater is g.

Therefore, there are three relevant time t^2 price ranges, as illustrated in Figure 1.

Figure 1

0_____(i)_____/p_k_____(ii)_____/v_____(iii)_____

A contract would not be useful to the buyer if the t^2 market price falls in range (i). The seller then offers to perform because the market price is less than the contract price. A contract buyer whose realized value exceeds p_k trades, and thus is not disrupted, but he pays p_k. This same buyer would also trade if he had not contracted, but, viewed from t^0, he is better off because the range (i) price may turn out to be lower than p_k.[88] The no-contract buyer could trade at the lower price. A contract also would not be useful to the buyer if the t^2 market price falls in range (iii). Contracting protects against disruption, but the buyer will not trade when the price exceeds his value, whether he has a contract or not, so there would be no disruption costs for contract damages to offset.

A buyer deciding whether to make a t^0 contract thus focuses only on range (ii). He knows that he will trade if the t^2 price falls in this range, and thus he could be disrupted if $p_m > p_k$. The buyer receives the sum that the damage measure d implies if he contracts and the seller breaches. This payment reduces g, but the price of d is k, the contracting cost. The buyer thus trades off expected disruption cost against contracting cost. Regarding the factors that influence this choice, the buyer is more likely to contract if k is low, d is large and x is large. The lower are contracting costs, the larger is the legal damage payment, and the greater is the disruption cost per dollar of expected surplus lost, the more likely the buyer is to contract. The fourth relevant factor is the variance of the t^2 price distribution. In any symmetric price distribution, the expected monetary gain from not having a contract in range (i) is exactly offset by having a contract in range (ii). The disruption parameter x, however, varies directly with the size of $p_k - p_m$. The greater the width of a price range is – i.e., the larger the variance – the larger this difference can be. Hence, the expected disruption cost is increasing in the variance of the t^2 price

[88] On the assumption that market prices are uniformly distributed, the expected range (i) price is $p_k/2$.

distribution.[89] Variance is a measure of risk, so this fourth factor holds that buyers are more likely to protect themselves with contracts when they face more risk.

We are interested in optimal damage measures, and we next argue that damages protecting the buyer's expectation are best. Buyers trade under any damage measure, including d = 0, but buyers will not contract under any damage measure. When d = 0, a contract makes no contribution to the reduction of disruption cost, but a contract is costly. The likelihood that the buyer contracts thus increases as the damage measure d increases. Recall that disruption costs are zero when the buyer's actual surplus from trade equals his expected surplus. Market damages ensure this equality when buyers trade. Thus, given a fixed contracting cost, this reasoning implies that the law should, at the least, protect the buyer's expectation with market damages. Society, however, is not concerned with whether the buyer contracts, but with whether parties make contracts that create a positive expected surplus. From this point of view, market damages should be the minimum *and* the maximum that the buyer recovers. To see why, consider Figure 2.

Figure 2

$$0_____k_b_____k_s_____0$$

$$\Rightarrow \qquad\qquad\qquad\qquad \Leftarrow$$

In the Figure, the buyer's expected gain from contracting, when damages protect his expectation, is measured from left to right, and the seller's expected gain from contracting, when damages protect her expectation, is measured from right to left. The expected gain equals contracting costs for the buyer and the seller, respectively, at the points k_b and k_s. Parties contract when both of their expected gains are in the $[k_b, k_s]$ region.

Awarding the buyer a penalty – an award that exceeds his expectation – reduces the seller's expected gain. The anticipation of the penalty moves the seller to the right in Figure 2, and so reduces the likelihood that she will contract. Awarding the buyer less than his

[89] We assume that the disruption parameter is asymmetric: the buyer does not benefit as much by a lower than expected price as he is harmed by a higher than expected price. We motivate this assumption with the following argument: paying a lower price increases cash flow but is unlikely to cause the firm to scale up its current projects; paying a higher price may cause current projects to be disrupted.

expectation reduces the buyer's expected gain from contracting. The anticipation of this low award will move the buyer to the left in Figure 1 and thus reduce the likelihood that he will contract. In this model, then, awarding the buyer just his expectation uniquely maximizes the probability that both parties are in the zone in which contracting is profitable. Thus, we conclude that *protecting the expectation with a market damages default best ensures that parties make efficient contracts*.

This conclusion implicitly assumes that giving buyers more than their expectation redistributes wealth between sellers and buyers but does not affect the width of the contracting zone. When the parties plan to make interim investments, however, a penalty may increase the expected gain from contracting. The prospect that such a penalty may be imposed will not deter efficient contracting. To see why, consider Figure 3.

Figure 3

0'_____k_b _____k_s _____0'
⇒ ⇐

Figure 3 is Figure 2 spaced out; the 0 points are further from each other, which is why they are denoted 0'. The extra spacing exists because the expected gain from contracting is greater than it would have been without the penalty. As a consequence, holding contracting costs fixed, the contracting zone [k_b, k_s] expands. The seller thus can be pushed further to the right and still have an incentive to contract. In Part IV we next argue that market damages should be awarded in a context in which they would be partly penal. The analysis here shows that these awards will not reduce the probability that parties will write efficient contracts.[90]

[90] The market delta rule encourages seller entry but does not discourage efficient contracting by the buyer. The buyer expects his contract to make a positive contribution to profit maximization – to avoid disruption costs – only in states of the world in which it is profitable for the buyer to trade. If the buyer's realized value is below the seller's cost, the buyer expects not to trade whether the seller tenders performance or breaches. Performance in this case would generate a negative return: that is, trade would cause disruption. The market delta rule reduces the buyer's damages only in states of the world in which the buyer will not trade. Since the buyer contracts to protect trading gains, the rule will not deter buyers from making efficient contracts when expected trading gains exceed contracting costs.

F. Summary

This model supports the claim that *when a market for the contract goods or services exists*, market damages are preferable to the market delta measure on both efficiency and fairness grounds. These damages induce trade only when trade is efficient and induce the correct number of sellers to enter the market. Moreover, market damages protect the expectation interest and thus maximize the probability that parties will contract efficiently. Market damages thus are both ex post and ex ante efficient. The market delta rule does not produce inefficient trade but this measure is ex ante inefficient because it induces excessive entry into the market by sellers.

The market delta rule also violates the compensation norm more seriously than does a market damage measure. The market delta rule violates the compensation norm in every case where the buyer's actual value from a seller's performance exceeds its market value. Since buyers commonly do value seller performances in excess of their market values (as implied by the decision to contract ex ante for the seller's services), the market delta rule undercompensates buyers in the usual case.[91] To the contrary, market damages overcompensate buyers *only* when performance of the contract service would have been inefficient ex post. But courts often will not know whether performance would have been efficient or not. This is because, as in the model we present here, buyer values often are unverifiable. In such cases, contract law's well grounded commitment to the compensation norm should persuade courts to award market damages whenever the buyer asks for them.

IV. COST OF COMPLETION DAMAGES, RESTITUTION AND SELLER PRECAUTIONS

In Part IV, we consider cases in which the buyer prepays for a contract service that is bundled with other tasks. If the seller breaches, this buyer has a claim for restitution of the price and a claim for market damages; both claims are vindicated by awarding the buyer the full cost of

[91] The market value of a seller's performance is assumed to be distributed uniformly on the interval [1, 2]. Hence, the buyer expects that value to have a mean of 1.5, and his expected value is б times that. We assume for convenience that б is invariant to the market value of performance. Thus, б, and hence the percent increase above the market value, is the same for every realized market value. If б is thought to increase with market value, then the argument just made overstates the extent to which the market delta rule undercompensates buyers.

completion. We develop additional efficiency justifications for awarding market damages in this context, but before discussing them it is helpful to ask why the buyer prefers to bundle the service in question with other services in a "master agreement." The buyer's other choice is to make the decision whether to buy the service – commonly repair or restoration – separately, after the initial contract is performed. Waiting permits the buyer to make an informed comparison between the current cost of the service and the current value gain. Buyers forego the advantage of acting on current information when there are economies of scope. In particular, there are two advantages to bundling the services in an ex ante contract. First, a seller who is working on the property -- such as the mining company in *Peevyhouse* -- may know more about the property's features than an outsider could conveniently know. Similarly, a contractor who has undertaken to assemble the construction materials and supervise their installation by sub-contractors is better able to assess how best to correct defective construction than can a third party called in to effect a repair after the job is complete. The seller can use this information to make the most cost effective restoration or repair choices. Second, the seller sometimes is able to adjust her performance along the way so as to reduce later restoration or repair costs. Buyers purchase restoration or repair services in the ex ante contract, therefore, when these efficiencies outweigh the benefit of resolving the issue whether to restore or repair when the buyer is better informed.

Master contracts usually have a single price, and this may create a problem for courts. A court cannot precisely compare the contract price for the service with the market delta unless the court can disaggregate the single contract price into its constituent elements. This will often be difficult to do.[92] A court for whom the market delta rule continues to hold appeal thus may think the windfall loss concern is more compelling in the case of bundled tasks for which the buyer has prepaid because the restitution claim is smaller in that case and the market damage claim

[92] Parties will separately price elements of a seller's performance when the gains from a more explicit identification exceed the pricing costs. In many contexts, pricing costs preclude much explicit identification. In addition, the seller may have joint costs, so there is no natural price for any segment of her performance. Our argument applies when these difficulties prevent separate pricing. As examples of the argument's ample domain, the standard form AIA Construction Contract contains no provisions that disaggregate the price of an initial installation and the price of the warranty to repair or replace defective construction; and the decided cases seldom exhibit detailed price breakdowns.

proportionately larger.[93] As a consequence, market damages are more likely to be substantially above the market delta in the prepayment context.

To be sure, the inability to make precise comparisons would not be a problem for a court that is persuaded by the arguments advanced above to abandon the market delta rule. Such a court can satisfy the buyer's claims to restitution and market damages by awarding the cost of completion without having to know which portion of this award applies to the prepaid price. Moreover, there is a corrective justice case against awarding only the market delta when the buyer prepays. According to conventional moral notions, a seller wrongs her buyer by accepting payment for a performance she deliberately fails to render. When the buyer is restricted to the market delta, the wrong is uncorrected because the seller retains the price. Cost of completion damages are more just because they recognize the buyer's restitution claim.[94] This corrective justice case may offset the windfall loss case for the market delta rule. Nevertheless, for courts and commentators who remain concerned about the magnitude of a seller's windfall loss, we develop two additional efficiency arguments in favor of market damages whenever buyers prepay.

The first argument focuses on the costs for buyers who would otherwise choose to purchase bundled services. Awarding the market delta rather than cost of completion damages when the buyer prepays causes contract buyers to earn negative returns when their valuations turn out to be low. This possibility reduces the expected return to entering the market to make efficient contracts. Buyers for whom this return falls below the contract price will not contract ex ante for the seller's repair or restoration services. Since bundling is efficient relative to the separate purchase of services, driving these buyers into the spot market (or excluding them altogether) reduces welfare. The second efficiency argument applies when the seller can take an efficient interim precaution. The precaution would reduce the cost of performing the contract service to below the buyer's value, but a seller who can retain the price and pay only market delta damages

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[93] As we showed in the Introduction, the cost of completion is the sum of the contract price and market damages. Because bundling is efficient, the shadow contract price of the service is lower than the price would be if the service had been separately priced. The lower is the contract price, the greater the share of a cost of completion award that market damages comprise.

[94] Analyses of corrective justice that support this view are in Ernest J. Weinrib, *Punishment and Disgorgement as Contract Remedies*, 78 Chi.-Kent L. Rev. 55 (2003) and Curtis Bridgeman, *Reconciling Strict Liability with Corrective Justice in Contract Law,* 75 Fordham L. Rev. 3013 (2007).

often has little incentive to take the precaution. In contrast, cost of completion damages create a strong incentive for sellers to take efficient precautions.

A. Restitution and the Buyer's Decision to Contract

The market delta rule does not cause inefficient trade, but the combination of prepayment and market delta damages inefficiently deters some buyers from entering the market and contracting for bundled services. To elaborate this argument, begin with sellers. In the high cost case, the seller breaches when she is not prepaid so permitting her to retain the price cannot produce more breach. Turning to the low cost case, and using the model in Part III, buyer market values are uniformly distributed between [1, 2]. Hence, the mean expected ex post buyer market value is 1.5, so the mean market delta is .5. A seller who plans always to breach and retain the price expects to earn nothing. The seller collects the 1.5 price, pays damages of .5 to buyers, and therefore realizes 1 per sale. This one is exhausted in defraying the seller's fixed cost of one, however. In contrast, a seller who plans always to perform, thereby never having to pay damages, earns price less marginal cost of 3/2 - 1/3 = 7/6. She allocates one to fixed cost and nets a positive gain of 1/6 = .17. Hence, when sellers can retain the price and pay only the market delta, they breach in the high cost case and perform efficiently in the low cost case.

When the seller breaches, courts award cost of completion damages to pre-paying buyers when the market delta is at or above the ex post market price. The model above showed that when buyers either do not prepay or get restitution of the price, market damages yield efficient trade. Since cost of completion damages entail restitution, buyers who trade when they should and receive damages earn their expectancy even though a contract seller can retain the price.[95] In contrast, buyers incur losses if they do not trade and they are restricted to recovery of the market delta. The market delta is the net market value gain that performance would have produced for the buyer while the larger prepaid price is the mean of the marginal cost distribution *plus* the seller's

[95]To make this clear, recall that cost of completion damages are the ex post market price, p_m. Thus a buyer who prepays, later trades and who recovers cost of completion damages earns $(v - p_m) + p_m - p_k = v - p_k$, which is the buyer's expectation. The first term on the left hand side of this equation is the buyer's value less the cover price; the second term is cost of completion damages; and the third term is the prepaid price that the contract seller retains.

fixed cost.[96] Buyers who are not myopic anticipate that they will incur losses in states of the world in which their valuations turn out to be relatively low. This prospect will cause some buyers not to enter the market to purchase the seller's services in the ex ante contract.[97] Deterring buyers from contracting ex ante for repair or restoration services is inefficient because buyers prepay – purchase services as part of a master contract – when economies of scope exist. Recalling the corrective justice point made earlier, we thus conclude: *When the buyer has prepaid for the contract service, both efficiency and fairness justify awarding cost of completion damages even when these would much exceed the market delta.*

B. The Precaution Dimension: Redoing Work and Improving Contractual Incentives

Prepayment creates an incentive for the seller to behave strategically in the two contexts that we analyze in this Part. The first is a construction contract under which the seller is to do a job that is composed of several separate acts and the buyer makes a total payment for the entire job. In the second situation, the buyer accepts a lower payment from the seller than he otherwise would in return for the seller's performance of a task for the buyer. As an illustration, the seller buys the right to mine on the buyer's property in return for a royalty and an agreement to restore the property at the end of the lease term. The royalty payments the seller makes to the buyer are lower because of the restoration obligation. In both of these situations, the seller can increase her payoff by retaining the price allocated to the relevant service or by paying the lower royalty but not doing the work.

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[96] A pre-paying buyer who does not trade and who is restricted to recovery of the market delta earns $\Delta_m - p_k$. This will be negative if $\Delta_m < p_k$, , or if $v_m - 1 < 1 + \frac{c_{\max} - c_{\min}}{2}$, where the left hand side is the market delta (ex post market value minus minimum market value) and the right hand side is the contract price (fixed cost plus the mean of the marginal cost distribution). Rearranging terms yields $v_m - 2 < \frac{c_{\max} - c_{\min}}{2}$. This inequality always is satisfied because $v_m \leq 2$ (the buyer's realized market value is bounded from above by 2) and the right hand side is positive. Hence, the market delta always is less than the contract price, so the non-trading buyer incurs a loss when the seller retains the price and pays only the market delta.

[97] Part III showed that reducing a buyer's damages in states of the world in which buyers will not trade does not deter buyer entry. When sellers can retain the price and pay only market delta damages, however, buyers actually incur losses in states of the world in which they do not trade. The prospect of these losses can reduce a buyer's expected gain from entry to below the contract price.

Our analysis of these situations rests on four key assumptions. First, the contract requires the seller to take a certain action-- i.e., to restore or correct any defect in performing the main job. We assume that the seller can take a related action during the course of performance. This related action is denoted a "precaution" because taking it reduces the expected cost of the contractually required action to less than its expected value to the buyer. If the contractually required action is restoration, the related action – the precaution – thus may be conducting mining operations so as to facilitate restoration. The failure to take the precaution is denoted "shirking." Second, the buyer is an imperfect monitor. He may not be an expert and monitoring is costly. The precaution is contractually required, either directly or indirectly.[98] Therefore, the buyer can force the seller to take the precaution if the buyer observes the seller shirking, but he may fail to detect shirking. Third, the seller's failure to take the precaution may never be discovered, or only discovered much later. Thus, the seller may have not have checked that the floors have sufficient structural support but this may not be known for years because the floors are covered with carpet or tile. Alternatively, something obviously is wrong ex post, but it is not obvious that the problem is a consequence of the seller's breach. For example,, it turns out to be quite expensive to restore a property after it has been mined, but whether the seller mined with restoration in mind or whether restoration would have been materially less expensive if she had are difficult to know. Fourth, the seller or a third party could perform the contractually required action ex post, but the action is much more expensive than if the precaution had been taken.

The seller is liable if the buyer discovers within the statute of limitations that she shirked. Under current law, the breaching seller pays cost of completion damages when these approximate or are below the market delta. Under the economic waste test, however, the seller is liable only for the market delta if the action seems inefficient ex post (i.e., the cost of completion much exceeds Δ_m). To understand the effect of this rule, consider that the seller should take the precaution because the precaution helps to ensure that the contractually required action is cost justified. A corollary to this conclusion holds that if the seller shirks, the action may ultimately not be cost justified. The likely sanction that the seller today faces if she fails to take the precaution, and later

[98] For example, the contract may regulate the manner in which a seller mines to ensure that restoration will be feasible ex post. The seller's duty of good faith also requires her to take cost justified actions that further the common venture.

fails to perform the contractually required action, is the low market delta. Therefore, when courts focus on the ex post comparison between the cost of performance and its value, courts create an incentive for sellers to tilt that comparison in their favor by not taking efficient precautions. The law encourages moral hazard.[99]

The theoretically efficient remedy when one party misbehaves because the other party is an imperfect monitor (here the buyer cannot always observe the failure to take the precaution) is a penalty that is partly a function of the likelihood of non-discovery.[100] This penalty, we show, cannot be implemented on the information structure assumed here. The efficient penalty is reasonably well approximated, however, by an award of cost of completion damages.

To support these conclusions formally, we modify the model set out in Part III. The required action costs c (including the precaution) if the precaution is taken but costs C > c if the seller shirks. The contract price of the action is p_k and the ex post market price is p_m. The contract price may be implicit. We assume competitive markets so price equals cost: $p_k = c$; $p_m =$

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[99] All of the assumed conditions that create a perverse incentive for the seller to shirk by failing to take the efficient precaution were present, in fact, in the case of *Jacob & Youngs v. Kent,* supra note 12. Note, for example, the dissenting opinion of Justice McLaughlin, who recited the following facts from the record:

> Under its contract [the plaintiff] obligated itself to use in the plumbing only pipe (between 2,000 and 2,5000 feet) made by the Reading Manufacturing Company. The first pipe delivered was about 1,000 feet and the plaintiff's subcontractor then called the attention of the foreman of the subcontractor, who was doing the plumbing, to the fact that the specifications annexed to the contract required all pipe used in the plumbing to be of the Reading Manufacturing Company. They then examined it for the purpose of ascertaining whether this delivery was of that manufacture and found it was. Thereafter, as pipe was required in the progress of the work, the foreman of the subcontractor would leave word at its shop that he wanted a specified number of feet of pipe, without in anyway indicating of what manufacture. Pipe would thereafter be delivered and installed in the building, without any examination whatsoever. Indeed, no examination, so far as appears, was made by the plaintiff, the subcontractor, defendant's architect, or anyone else, of any of the pipe except the first delivery, until after the building had been completed.

Here, each of our four assumptions were satisfied. There was (1) an apparently efficient precaution – checking the pipe as it was delivered to insure that it met contract specifications; (2) evidence that the owner, through his architect, was an imperfect monitor (he was able conveniently to check only the first installment of pipe but not the remainder); (3) difficulty in discovering the unsatisfactory performance because most of the pipe was embedded in the walls of the house; and (4) performance that was inefficient ex post --the high cost of removal caused the ex post market price of performance to exceed the market delta by so much as likely to exceed the buyer's value from performance.

[100] See e.g., Aaron S. Edlin and Benjamin E. Hermalin, *Contract Renegotiation and Options in Agency Problems*, 16 J. L. Econ. & Org. 395 (2000); Gary S. Becker, *Crime and Punishment: An Economic Approach,* 76 J. Pol. Econ. 169 (1968)*;* GARY S. BECKER & WILLIAM M. LANDES, ESSAYS ON THE ECONOMICS OF CRIME AND PUNISHMENT (1974).

C. Therefore, p_m is the cost of completion. The buyer values the contractually required action at v and the action will increase the market value of the buyer's property by Δ_m. We assume that v > c; the precaution is efficient because taking it reduces the total cost of the contractually required action to below its value. The buyer discovers breach with probability η, where $0 \leq \eta \leq 1$.

The parties contract at t^0. The seller will take the precaution at t^1 if the expected damages she would pay for breaching the contract (e.g., not restoring) exceed the contract price of the action. If the seller decides not to take the precaution, she waits until t^{1+} to see whether the buyer will discover her omission. If she is discovered, she takes the precaution then. If she is not discovered, she both fails to take the precaution and fails to perform the contract action. A seller who breaches finishes the principal job (e.g., completes construction or mining) at t^2. If her breach is discovered then, she pays the damages the law now requires; otherwise, she keeps the price. Since market values fluctuate, we assume that the realized market delta is below a "cutoff" cost of completion, denoted C_x, with probability $F(C_x)$.[101] In these cases, a seller who is discovered pays Δ_m. The market delta thus exceeds the cutoff value with probability $1 - F(C_x)$, in which case the seller pays $p_m = C$.

To see what the seller will do, consider that she earns a pure profit of zero if she takes the precaution. The seller has been paid c, which is the cost. Hence, she shirks if the expected gain from shirking and then breaching is positive. Expression (1) is the shirking condition.

$$(3) \quad (1-\eta)p_k + \eta\{p_k - [F(C_x)\Delta_m + (1 - F(C_x)p_m]\} \geq 0$$

The first term on the left hand side of Expression (3) is the expected value of breaching when it is not discovered: the seller then keeps the full price. The second term is the expected value of breaching when the buyer discovers it. The seller keeps the price less the terms in brackets, which sum to the expected damages from breach. If the market delta is less than the cutoff value for cost of completion damages, which occurs with probability $F(C_x)$, the seller pays the market delta; otherwise, she pays the cost of completion.

[101] Under the law, the seller pays cost of completion damages if they are in the neighborhood of the market delta. Thus, the seller pays the market delta only when cost of completion damages substantially exceed it. We denote as C_x the cut off cost of completion damages, below which the seller pays only the market delta.

The first term in Expression (1) is positive. Hence, the seller shirks if the second term is positive or if the second term is negative but by less than the first term is positive. The second term can be positive because $p_k > \Delta_m$.[102] The likelihood that the second term is positive (or not very negative) is high if the probability that the seller will have to pay cost of completion damages (p_m in the Expression) is low. This fact implies that *the more productive the precaution – i.e., the greater its cost reduction effect – the less likely the seller is to take it.* A highly productive action ensures that $p_k << p_m$; the required action is relatively cheap given the precaution but very costly without it. Holding the market delta constant, the probability of paying cost of completion damages – $1 - F(C_x)$ – thus falls as the cost of completion increases.[103] Therefore, shirking can yield a positive expected gain even when discovery is probable.

The seller also may shirk when the damage sanction – the bracketed term in Expression (3) – exceeds the contract price if breach is likely to go undiscovered. To pursue this possibility, denote the bracketed term as [•] and assume that $p_k < [\bullet]$; that is, the expected damages from breach, conditional on discovery, exceed the prepaid price. Expression (3), the shirking condition, then can be rewritten as

$$(4) \quad p_k\left(1 + \frac{1-\eta}{\eta}\right) \geq [\cdot]$$

The seller will shirk if Expression (4) is satisfied. The Expression cannot be satisfied if breach is discovered with certainty. Then $\eta = 1$ and now $p_k < [\bullet]$ by assumption. If discovery is not certain, however, Expression (2) shows that the seller's incentive to shirk is decreasing in (i) the difference between the expected damages and the contract price of the action, and in (ii) the probability of discovery. Holding the probability of discovery constant, the closer is the price to expected damages – i.e., the higher the price gets – the more likely the seller is to shirk. And holding the

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[102] This is proved in note 95, supra.

[103] One such case is where the principal job would have been satisfactorily completed if the seller had taken the precaution but is very costly to complete ex post because the seller would have to redo work. Courts uniformly do not require the seller to redo work at a large cost when redoing work would yield a small market gain (i.e., $C = p_m >> \Delta_m$). Instead, courts award the market delta Δ_m. See cases cited notes – and --supra.

difference between damages and the price constant, the lower is the probability of ex post discovery the more likely the seller is to shirk.

We can now summarize the basic idea, which is that courts fail to recognize that parties in these contexts face a problem of imperfect contract enforcement. In the cases that courts commonly see, it is efficient to take the contractually required action were the precaution taken, but it is inefficient to take the action otherwise. Courts that strive to avoid ex post wealth transfers award low damages – the market delta – in these cases. The buyer, however, cannot himself require the seller always to take the precaution because the buyer is an imperfect monitor. And the buyer may not later discover breach, either because the seller's performance of the project in its entirety is satisfactory at first blush or because the cause of an unsatisfactory performance is hard to determine. Current law thus exacerbates the parties' problem rather than relieves it: the law should impose a high sanction for breach when the buyer cannot fully help himself but the law instead imposes a low sanction.

The theoretically efficient remedy for imperfect enforcement of a legal command or a contractual obligation is to require a malefactor who is caught to pay a penalty that equals the grossed up value of the loss she caused. Thus, a seller who shirked should have to pay $\frac{v}{\eta}$: the buyer's true value loss divided by the probability that the buyer will discover the breach. However, as we have assumed, the buyer's value is not verifiable so the court cannot observe v. A court also seldom could observe η because it is highly contextual. Whether particular breaches will be discovered depends on the nature of the required performance and the nature and consequences of breach. This data varies with particular sets of parties and is not generally collected. Information constraints thus preclude implementation of the theoretically efficient penalty.

The preferred second best solution requires the seller to pay p_m, the cost of completion, whether it exceeds the market delta or not. Then the bracketed expected damage term in Expression (3) equals p_m, which materially exceeds the price of the required action, p_k, if the precaution were taken. As a consequence, sellers will perform unless the probability of ex post

discovery is very low.[104] To be sure, the buyer will not spend p_m to complete when p_m exceeds his value from the service. The penalty seldom will be imposed, however, because the seller commonly will perform. Further, penalties are *intended* to create windfall gains and losses. The gains motivate injured parties to sue and the losses deter inefficient derelictions of duty. As a doctrinal matter, this analysis identifies another case in which it is efficient to award penalty damages for breach of contract.[105] We sum up this analysis by concluding: *When sellers can take cost justified precautions to reduce the cost of performance but buyers are imperfect monitors, restricting buyers to the market delta creates an incentive for sellers not to take preca utions while awarding cost of completion damages creates an incentive for sellers to take them.*[106]

1. Normative Implications

This conclusion implies that two famous contracts cases were incorrectly decided.[107] Thus, as noted above, the seller in *Jacob & Youngs* could easily have checked pipe deliveries,[108]

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[104] The analysis and the math would change a little if the seller's failure to take the action was the consequence of negligence but the qualitative result would remain. The breacher should pay a penalty when enforcement is imperfect, and the only effective penalty here is to award cost of completion damages to the buyer.

[105] For other examples, see Aaron Edlin and Alan Schwartz, *Optimal Penalties in Contracts*, 78 Chicago-Kent L. Rev. 33, note 28 at 49 (2003), and Robert E. Scott & George G. Triantis, *Embedded Options and the Case Against Compensation in Contract Law*, 104 Colum. L. Rev. 1428, 1481-2 (2004).

[106] Two further comments may be helpful. First, although cost of completion damages are a penalty ex post, they induce efficient behavior. Consequently, as we show in Part 5, parties would accept them as the default. Second, when a seller has no precautions to take, cost of completion damages function as a penalty default. The seller, by contracting out, informs the buyer that he later will be restricted to the market delta on breach.

[107] A recent article also argues that the buyer should receive cost of completion damages. See Juanda Lowder Daniel and Kevin Scott Marshall, *Avoiding Economic Waste in Contract Damages: Myth, Misunderstanding, and Malcontent*, 85 Neb. L. Rev. 875 (2007). We obviously agree with this article's conclusion, but the analysis these authors use to justify does not fully persuade. The paper's formal model does not require the buyer to prepay. Expression (3) above is negative -- i.e., the seller never breaches -- when the buyer does not prepay. The seller's gain from breach is the price she retains less the expected value of the damage sanction. If there is no prepaid price, the seller's expected payoff from breach is just the expected value of the sanction, which is negative. The paper also assumes that the cost of completion "approximates" the utility the buyer would have realized from performance. See id at 902. Buyers value performance at or above its market value. Hence, on this assumption, the cost of completion also approximates the market delta. But when this is so, courts today award the cost of completion, so the article cannot justify a change in current practice. Third, the assumption that the ex post cost of completion approximates the ex post buyer utility from performance is unrealistic. For example, the assumption could hold in the *Peevyhouse* case only if the buyers there valued performance at 100 times its market value, and the buyer in *Jacob & Youngs* would have had to have a higher valuation than that. Courts plausibly reject the assumption that the ex post value and the ex post cost equate. Rather, the buyer's expected value will exceed the expected cost *conditional on the precaution being taken*. For this reason, a cost of completion award is a penalty when measured against the buyer's ex post expectation, but protects that expectation indirectly by inducing the seller to take precautions.

and the mining company in *Peevyhouse* could have stripped with restoration cost in mind.[109] Restricting buyers to the market delta in the contexts these cases exemplify is inefficient. This inference is supported by a more systematic examination of the cases in our sample. Thirty cases fit the basic assumptions of the precaution case.[110] Fourteen of them involved redoing work following a substantial performance by the seller, while sixteen involved breach of the promise to restore or regrade. Of these thirty cases, nineteen had facts that were sufficiently clear to permit an inference that the seller could have taken cost-effective precautions to reduce the performance cost: the realized cost of completion.[111] Of the remaining eleven cases, five appeared not to offer the seller the opportunity to take actions to reduce completion costs significantly,[112] and the facts in the remaining six cases were inconclusive. In the nineteen cases where seller actions likely would have reduced costs, the buyer's capacity to monitor was imperfect: the buyers were mostly amateurs, and they could not constantly be on site.[113] This data suggests that the proposed penalty

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108 See note 96, supra. Chakavarty and MacLeod, supra note 57, defend the result in *Jacob & Youngs.* In their view, the buyer had no utility loss from receiving the wrong pipe and the seller substituted other pipe – i.e., breached – because the substituted pipe was less costly. Whether the buyer suffered a utility loss or not is unknown, and there is no evidence that the substituted pipe was less costly than the contract pipe. These authors also do not focus on the low cost of compliance with the contract along the way, in contrast to the high ex post cost, nor do they consider that awarding no (or nominal) damages encourages contractors not to take precautions.

109 In *Peevyhouse*, the service actually was priced; the buyers agreed to forego an additional $3,000 in royalties in return for the coal company's restoration obligation. See Judith Maute, *Peevyhouse v. Garland* Coal Revisited*: The Ballad of Willie and Lucille*, 89 Nw. U. L. Rev. 1341 at 1413 (1995). The ex post cost was $29,000. The lease was to last for five years. At a 10% annual interest rate, the present value – the value at contract time - of the cost of the restoration obligation approximated $6,300. A rational company would not accept $3,000 in return for performing a $6,300 obligation. Rather, rationality implies that it would have cost Garland Coal $3,000 or less to mine with restoration in mind – to take the precaution – and to restore. The Peevyhouses indicated that they valued restoration at $3,000 or more by signing the lease. Thus, taking the precaution was interim efficient. Whether the Peevyhouses valued restoration at more than $29,000 – recall that the market delta was $300 – is impossible to know, but we argue that awarding the cost of completion is appropriate to deter breaches such as the one in this case.

110 See cases cited notes – and – supra.

111 See e.g., Wells v Minor, 219 Ill. App. 3d 32, 578 N.E.2d 1337 (1991), Lyon v. Belosky Const. Inc., 247 A.D.2d 730, 669 N.Y.S.2d 400 (3d Dep't 1998), Grossman Holdings Ltd. v. Hourihan, 414 So.2d 1037 (1982)**,** Lowe v. Morrison, 412 So.2d. 1212 (Ala. 1982), Gadbois v. Leb-Co. Builders, 458 A.2d 555 (Pa. 1983), Ruddach v. Don Johnston Ford, Inc., 621 P.2d 742 (Wash. App. 1980), Missouri Baptist Hosp. v. U. S., 555 F.2d 290 (Ct. Cl. 1977), Asp v. O'Brien, 277 N.W.2d 382 (Minn. 1979), Seago v. Fellet, 676 P.2d 1224 (Colo. App. 1983).

112 See e.g., Ideal Pool Corp. v. Hipp, 370 S.E.2d 32 (Ga. App. 1988), Bowes v. Saks & Co., 397 F.2d 113 (7th Cir.1968), Avery v. Fredericksen & Westbrook, 67 Cal. App.2d 334, 154 P.2d 41 (1944), Dimick v. J.K. Noonan, 242 S.W.2d 599 (Mo.App.1951).

113 See cases cited in note –supra.

of cost of completion damages will often be efficient in cases where the seller breaches a promise to repair or restore and invokes the economic waste defense.

2. Renegotiation

It is tempting to conclude that the incentive effects of cost of completion damages in the precaution case would unravel because parties will renegotiate in the shadow of the damage rule. To this point, we have ignored renegotiation because we are interested in the efficient damages default. We justify cost of completion damages in the precaution case, however, partly on the ground that they constitute an effective penalty. It is customary in the contract theory literature to consider whether renegotiation will vitiate an otherwise efficient penalty scheme.[114]

As elsewhere, renegotiation would partly undo the incentive effect of a cost of completion award, were renegotiation feasible, but the scheme would be effective in many cases.[115] To see why, let the buyer be legally entitled to cost of completion damages and assume that this cost exceeds the value, v, the buyer would realize from performance. A breaching seller can restrict the buyer to v by performing. Breach thus creates an ex post surplus of p_m - v: the money the seller saves less the buyer's value loss. Letting α index the buyer's bargaining power ($0 < \alpha \leq 1$), the seller can buy her freedom by paying the buyer the sum q where $q = v + \alpha(p_m - v) < p_m$. Anticipating that she will have to pay q (rather than cost of completion damages) if she breaches and is discovered, then, using Expression (3) above, the seller will eschew the precaution and breach if

$$(5)\ p_k > \eta q$$

[114] We assumed above that renegotiation is infeasible because the buyer's value is unobservable. We now relax this information assumption.

[115] A standard contract theory result is that penalties work if an incorruptible third party enforces them. Such parties are difficult to find, but may exist in construction contexts. There, an architect serves as a "contract referee." Under the standard AIA form contract, final payment is due upon the issuance of the architect's certificate, leaving the buyer to sustain the burden of establishing a defect that requires repair. See AIA Document A201, §§ 9.4.2 & 9.6.1 (1997). Like an arbitrator, the architect's discretion is disciplined by his reputational stake in not appearing to be biased in favor of contractors or owners. For discussion, see Scott & Triantis, *Anticipating Litigation,* supra note – at 1170-71. For further discussion of the function of contract referees in overcoming verifiability problems, see ROBERT E. SCOTT & PAUL B. STEPHAN, THE LIMITS OF LEVIATHAN: CONTRACT THEORY AND THE ENFORCEMENT OF INTERNATIONAL LAW 98-101 (2006).

The left hand side of Expression (5) is the prepaid contract price the seller retains and the right hand side is the anticipated cost the seller expects to incur to avoid having to perform the service ex post if her breach is discovered.

Holding bargaining power constant, Expression (5) becomes more difficult to satisfy as the cost of completion increases. For example, if the parties have equal bargaining power at the renegotiation stage ($\alpha = ½$), and substituting for q in Expression (5), the seller will shirk if

$$(6) \quad p_k > \eta\left(\frac{p_m + v}{2}\right).$$

Rationality implies that $p_k < v$, and in the reported cases the cost of completion, especially when work must be redone, is quite high. Expression (3) thus becomes difficult to satisfy when the contract service is efficient conditional on the precaution being taken and the precaution would save substantial ex post costs.[116] The possibility of renegotiation therefore should not defeat the penalty scheme we advocate.

V. THE CASE FOR A UNIVERSAL COST OF COMPLETION DEFAULT

A. The Defects of the Market Delta Measure as a Default Rule

The project of creating optimal default rules for contracting parties often founders on the costs of rule creation for heterogeneous parties that function in complex environments. A good default rule is relatively predictable in its application and is suitable for a wide variety of contracting parties.[117] The criterion of predictability is a function of the rule's utility in improving

[116] See cases cited in note —supra. For a numerical example, let $p_k = 1.5$ and v, the buyer's realized value, be 1.8. In the cases, the cost of completion can be hundreds of times greater than the cost of taking the precaution (recall Jacob and Youngs v. Kent). At a conservative estimate, let the cost of completion be ten times the precaution cost. Then, using Expression (4), though there is renegotiation, the seller will not shirk if the probability of discovery exceeds 19%.

[117] See Alan Schwartz & Robert E. Scott, *Contract Theory and the Limits of Contract Law,* 113 Yale L. J. 541, 598-601(2003) for derivation of the criteria for good default rules.

the parties contractual incentives, particularly the incentive to trade when trade is efficient and the incentive to make efficient investments that enhance the value of the contract. The suitability criterion measures the stability of a default rule; that is, parties will accept the default rather than contract out of it.[118]

In Part II we showed that the "economic waste" doctrine and the market delta measure it applies combine to create a mandatory rule. The rule applies notwithstanding contract terms that expressly obligate the seller to bear the full cost of repair or restoration. Moreover, the penalty doctrine constrains contracts that purport to protect subjective value whenever the ex post market price of a contract service greatly exceeds the market delta.[119] But regardless of this constraint, the market delta measure also fails both the predictability and stability criteria for a good default rule.

The rule lacks predictability because it is a vague standard that is not grounded in particular parties' circumstances. In the economic waste case, a buyer is restricted to diminished value when cost of completion damages would "greatly exceed" the market delta. The extensive case law following *Jacob & Youngs v. Kent* further qualifies the economic waste doctrine by requiring that a seller's default be in "good faith."[120] If her breach is "wilful" or in "bad faith," the buyer presumably can recover cost of completion damages. The instructions to the parties and courts that cost of completion damages cannot be "too high" or that parties must behave in "good faith" and not "wilfully" stand alone, unmodified by contract terms or legal rules that reflect the specific contexts in which parties function. Free floating standards such as these give parties and courts little guidance. As a result, these standards fail to motivate sellers to take efficient precautions against ex post cost increases,[121] and they encourage strategic breaches whose object

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[118] Id.

[119] See Goetz & Scott, *Liquidated Damages and Penalties*, supra note — at 578-83; and notes – and – supra.

[120] See e.g., Shell v. Schmidt, 330 P.2d 817, 164 Cal.App.2d 350, (Cal.App.1958) (Noting that "good faith" or "lack of willfulness" must be proven in order to utilize the substantial performance rule and the "value" measure of damages.); Groves v. John Wunder Co., 205 Minn. 163, 286 N.W. 235 (Minn. 1939) (same); Jacob & Youngs v. Kent, 230 N.Y. 239, 129 N.E. 889 (1921) ("The wilful transgressor must accept the penalty of his transgression. For him there is no occasion to mitigate the rigor of implied conditions.").

[121] See TAN supra.

is to extort more favorable terms than a party could obtain in the initial contract.[122] By way of contrast, franchise contracts commonly set out a precise list of the franchisee's duties and conclude with a broad standard that requires the franchisee to use "best efforts" to make the venture succeed. The broad concluding duty is thus given content by the preceding specific injunctions.[123] To be sure, parties to complex transactions sometimes use vague standards such as best efforts with no internal limitations, but the fact that they frequently do not suggests courts are wise to avoid reading into commercial contracts implied standards, such as reasonableness or good faith. Commercial parties can include standards in their contract at relatively low cost and they enjoy superior knowledge of the context of their contractual relationship so as to determine the optimal mix of precise and vague terms.[124]

The market delta rule would also be an unstable default. Parties contract out of free floating legal standards when they can.[125] Moreover, in Part IV we showed that when the seller retains a prepaid price, the market delta measure can cause buyers not to contract ex ante for the relevant services though it would be efficient for them to do so. Whenever sellers breach and cost of completion damages substantially exceed the market delta, non-trading buyers are restricted to market delta damages, which are less than the prepaid contract price that the seller retains. Anticipating a negative expected return, some buyers whose valuations exceeded the contract price would nonetheless decline to enter into otherwise efficient contracts. Since both sides benefit when buyers whose expected values exceed seller costs enter the market, parties would reject current law were they free to do so. Finally, the market delta rule creates an insufficient incentive for sellers to take precautions that would efficiently reduce the likelihood of later breach. In sum, parties who wished to maximize expected surplus from contracting would opt out of the market delta default were they free to do so.

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[122] Schwartz & Scott, *Contract Theory*, supra note – at 601-05.

[123] See Scott & Triantis, *Anticipating Litigation,* supra note _ at 853-55.

[124] Id. at 844, 878-9.

[125] Schwartz & Scott, *Contract Theory*, supra note – at 601-5.

B. Market Damages and the Cost of Completion are Good Defaults

The argument for abandoning the economic waste doctrine ultimately depends on the claim that market damages (and the full cost of completion when the buyer prepays) would be a better default in all cases, including those where completion costs probably exceed the value of completion to the buyer. At the outset, it is important to emphasize that courts cannot award market damages unless there is a market on which good substitutes can be purchased. Assuming that there is a market for the contract services ex post, a market damages default satisfies the predictability criterion; it is a rule that awards the buyer the difference between the contract and market prices, both of which parties and courts commonly can recover. This default also satisfies the stability criterion; parties will generally accept it. To understand why, first assume that buyers do not prepay for the contract service. Assume further that the default rule entitles buyers to cost of completion damages less the unpaid contract price, in other words, to market damages.[126] Part III showed that market damages maximize the probability that parties will contract efficiently and thus ensure trade if and only if trade is efficient. In consequence, market damages maximize a transaction's expected surplus. We have assumed a competitive market, in which buyers realize the full surplus from contracting. Since market damages maximize that surplus, buyers at the time of contract prefer – they will not contract out of – the market damage rule. Sellers earn zero profits in any competitive equilibrium, so they too have no incentive to alter a market damages default.

A market damages default must then add restitution of the price when the buyer prepays. A buyer will contract ex ante for the service if he expects to earn a positive return. In Part IV, we showed that when the seller can retain the price, many buyers expect to earn negative returns. This is because the seller retains the contract price though it exceeds the damages award. As a consequence, buyers who would willingly pay above cost for the service will not make ex ante contracts. Sellers also earn negative returns when there are too few buyers. Thus, sellers are motivated to return the price on breach, to the extent that transaction costs permit the price to be reliably reconstructed. Since a cost of completion default automatically ensures return of the price,

[126] This is effectively the rule courts apply where there is no evidence of "economic waste" and the buyer has not prepaid for the contract service. In this case, the general rule is that the buyer is entitled to cost of completion damages less the contract price remaining unpaid or, in effect, market damages. See TAN supra.

it satisfies both sides of the market: buyers earn positive expected profits and sellers earn a competitive return on investment.

To summarize, the argument for the cost of completion as a stable default rule proceeds as follows: (a) Market damages maximize expected surplus, so a rule awarding them is a good default for contracting parties whenever there is an available market; (b) When the buyer prepays, it is efficient and fair to permit buyers to have restitution of the contract price;[127] and (c) When the seller can take a precaution that reduces expected costs and buyers monitor imperfectly, overcompensatory damages are needed to ensure that the precaution actually is taken. Moreover, since cost of completion damages are a formula rather than a number, a default that requires the seller to pay them would be stable and would likely avoid the ban on overcompensatory liquidated damage clauses.[128] Together, these three steps imply that typical parties would accept a default that is the sum of market damages and restitution.

Four arguments are commonly advanced against cost of completion damages in economic waste cases. First, courts sometimes argue that the deviation from compensation will be much greater if cost of completion damages are awarded than if the buyer is limited to the market delta. This argument assumes that courts are able to verify the buyer's valuation and will award the market delta only in those cases where the buyer's subjective value is substantially lower than the ex post market price. This assumption is often incorrect. The buyer's value in the contract performance cannot commonly be recovered by courts for the same reason that courts generally cannot verify direct expectation damages.[129] Indeed, the common law's strong preference for

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[127] With regard to fairness, it is not inequitable to require the seller to pay cost of completion damages though they significantly exceed the market delta. A significant component of these damages is restitution and it is not inequitable to require the seller to return the money when she did not do the work.

[128] The penalty cost of completion default would assign the risk of endogenous cost increases in much the same way that the common law, beginning three hundred and fifty years ago, assigned it in *Paradine v. Jane*, Aleyn 26, 82 Eng. Rep. 8907 (K.B. 1647) ("When a party by his contract creates a duty or charge upon himself, he is bound to make it good, if he may, notwithstanding any accident by inevitable necessity, because he might have provided against it by his contract"). This principle is part of the common law of contracts in all American jurisdictions. See e.g., Stees v. Leonard, 20 Minn. 449 (1874). See generally, SCOTT & KRAUS, supra note 2 at 76-88.

[129] Cf. Eisenberg, supra note – at 595 (arguing that courts should use as a proxy for the buyer's subjective value whether the "promisor has made a convincing case that the promisee would be highly unlikely to use...cost of completion to actually remediate the defective performance."). See also, Ruxley Electronics & Construction Ltd. v.

market damages evinces a recognition of the problems of proof created by efforts to measure cost and value directly.[130] Moreover, the market delta is not a viable proxy for the value of performance to the buyer. Ordinarily, courts can infer from a party's failure to contract away from a damages default that the default is a valid proxy for the loss in value caused by breach. But as we show in Part II, the market delta measure is effectively a mandatory rule. Thus, no legitimate inference can be drawn from buyers' failure to specify a larger valuation in the ex ante contract.

The second argument offered against awarding cost of completion damages in the economic waste case is a concern that the prospect of a large damage liability will cause the seller to over-comply with her contractual obligation; that is, to invest excessively in precautions. This is not a problem on the usual assumptions of contract theory. These assumptions hold that (a) a payoff relevant bit of information is either verifiable or it is not; and (b) parties will contract only on verifiable information. Thus, our model in Part IV assumed that whether the seller took the contractually required action is verifiable. For example, if the seller contracted to regrade the land, then the seller can verify to a court that she regraded the land. Since the seller will agree to regrade only if the expected cost is less than the price, the seller has no incentive to invest excessively in precautions.

But suppose the assumption of verifiability is relaxed in favor of assuming that courts are accurate on average but can make mistakes. Would a cost of completion award cause excessive precautions when mistakes may be serious? In the apparently few contexts when this can occur, parties will contract out of the cost of completion default. For example, a buyer may behave strategically in connection with a complex construction contract, which requires the seller to comply with a precise and detailed list of specifications. In that setting, minor deviations from the specifications might be exploited by a buyer intent on capturing a penal sum. This problem is solved in the common construction case by the use of the architect as a contract referee. The standard AIA construction contract provides for the architect to issue his certificate

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Forsyth, (1995) 3 All E.R. 268 (U.K.H.L.) (holding that the court should measure the promisee's subjective value directly).

[130] Scott, *The Case for Market Damages,* supra note – at 1160-65.

of final payment when he finds that the work is "acceptable under the Contract Documents."[131] In turn, the architect's discretion is disciplined by his reputational stake in not appearing to be biased in favor of builders or owners.[132] A seller for whom such safeguards are insufficient can opt out of the cost of completion default and contract for the market delta.

A third argument against cost of completion damages follows from the assumption that the large bargaining range between the market delta and a cost of completion award will cause excessive transactions costs when parties renegotiate following the seller's breach. This argument assumes, however, that nothing is gained by awarding buyers the cost of completion: on this assumption, any law-induced bargaining cost is a social waste. To the contrary, we show that awarding buyers the cost of completion creates incentives for sellers to take efficient interim precautions. The transaction costs of renegotiation do not vitiate this incentive scheme, and so are less than its social gain.

In addition, the transaction cost argument must also assume that courts are able to verify the buyer's true value or that the market delta is a good proxy for that value. Otherwise, there is no *a priori* reason to believe that a divergence between the market delta and market damages in any given case will generate excessive bargaining costs. Market damages place fewer information demands on courts than the market delta remedy. A court need not separately identify the price when the buyer prepays because the price is a part of the cost of completion (the ex post market price). In addition, whenever there is an available market on which to purchase a substitute performance, it is generally easier to identify the ex post market price for the contract service than to reconstruct the requisite counterfactual: the value the buyer's property would have had if the seller had performed the service. Thus, awarding the cost of completion not only is a good default because parties prefer it but also because courts can conveniently apply it.

The ease with which courts can recover the relevant market price points to a final argument against cost of completion damages: the market for substitutes is heterogeneous and

[131] See AIA Document A201 –General Conditions of the Contract for Construction, §9.10.1 (1997) (stating that the "Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.").

[132] Scott & Triantis, *Anticipating Litigation, supra note – at 871.*

consists of separate markets for replacement and resale. Thus, when courts limit the buyer to the market delta they are selecting the resale market as the least cost market in which to measure market damages. On this view, the market delta is not a limitation on market damages but rather reflects the courts' judgment as to the best market in which to measure the buyer's loss. This argument suffers from a flawed assumption, however. When the buyer enters the market for restoration or repair services ex ante, the price he prepays is the ex ante replacement market price. When a court awards market delta damages, however, it measures the buyer's damages by the resale market—a different market than the one in which the buyer contracted. It is this erroneous apples and oranges comparison that underlies the buyer's legitimate claim for restitution and the consequent inefficiencies of the market delta rule.

VI. CONCLUSION

When parties trade in thick markets, market damages – the difference between the market price for goods or services at the time of breach and the contract price – are the best damage default. Market damages protect the expectation interest and protecting the expectation interest uniquely maximizes the probability that parties will contract efficiently. To be sure, other damage measures protect the expectation interest as well, but market damages also do not create investment inefficiencies, and sometimes help to ameliorate them. Finally, market damages do not impede the parties' incentive to trade if and only if trade is efficient.

Courts commonly overlook the virtues of market damages when promisors offer a set of services some of which are not separately priced. For example, the promisor may agree to pay royalties on a mining lease and later to restore the promisee's property. In these cases, courts compare the cost to the promisee of providing the service that was not supplied to the increase in the market value of the promisee/buyer's property had the promisor/seller performed. When the cost of completion is large relative to the "market delta"– the increase in market value – courts award the value increase. This comparison is mistaken. The cost of completion comprises the ex ante market price for the service plus the difference between the ex post price and the ex ante price. Since the buyer commonly prepays for the service at the ex ante market price, a cost of completion award actually has a restitution element – the prepaid price – and an expectation interest element – the market damages. The failure to recognize the joint nature of cost of

completion damages causes courts to deny these damages more frequently than they should. If it is justifiable for courts to deny buyers "excessive" damages, courts should compare the market delta to market damages, not to the cost of completion. We have argued, however, that courts should award market damages even when they substantially exceed the market delta. To deny buyers market damages permits sellers to be fully compensated when they prefer performance, but to pay less than full damages when they prefer breach. As a consequence, sellers expect to earn positive profits and this will induce excessive entry into these service markets.

In addition, buyers are undercompensated when they cannot recover the price paid for the breached services but instead are restricted to the market delta. As a result, too few buyers enter the market by contracting ex ante for the relevant service and surplus maximizing contracts are forgone. Finally, sellers often can take actions in the interim between making the contract and the time for performance of the service that would reduce the service cost to manageable proportions. Sellers are less likely to take these precautions when upon breach they must pay buyers only the market delta rather than the full performance cost that their actions could have avoided.

We conclude with two further remarks. First, a market damages default solves one information problem perfectly but solves the other imperfectly. On the one hand, awarding buyers the cost of completion frees courts from reconstructing the ex ante shadow price for the breached contract service. On the other hand, we assumed above that there was a unique cost of completion – the ex post market price – that parties and courts could easily recover. This assumption is strong when applied to many service markets where there is considerable supply, and therefore price, heterogeneity. Our proposals do not worsen this problem, however. Under the current rule, courts must determine the cost of completion in order to decide whether to award those damages or the market delta. Nevertheless, if the virtues of market damages come to be more widely recognized, there will likely be greater focus on determining the relevant market for the contract services and the current price of those services within that market. The issues surrounding market definition engender substantial scholarly commentary in the antitrust field but have been virtually ignored in contracting contexts. Further research could usefully end this neglect.

Second, courts that award the market delta are practicing a form of soft paternalism. Judges believe that, notwithstanding the express terms of the contract, the parties must have made

a mistake. No one intends at the contracting stage to require a miner/seller later to spend $29,000 to restore property whose value would increase by less than $500.[133] The judicial tendency to attribute a lack of foresight or incompetence to parties in commercial contexts, and thus to override explicit contracts with mandatory rules, is regrettably widespread.[134] This tendency is responsible for overly restrictive liquidated damage rules,[135] for ignoring merger clauses and instead forcing costly trials on interpretation issues,[136] for preventing efficient contractual restrictions on the parties' ability to renegotiate,[137] and for much else.[138] We show here, and it has been shown elsewhere, that such judicial interventions produce inefficiency but yield no offsetting benefits. Perhaps it is time for a "judicial default." When a contracting practice is widespread, such as the bundled prepayment for services discussed here, courts should assume that the practice is efficient. This presumption may be plausibly overcome by serious scholarly commentary or experience but not by the fairness pleas of disappointed parties.

May 7, 2008

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[133] These were the facts in *Peevyhouse*, see note –supra.

[134] See Schwartz & Scott, supra note 94, at 609-611.

[135] See e.g., Scott & Triantis, *Embedded Options*, supra note – at 1481-2 (2004)*;* Edlin & Schwartz, supra note –; Goetz & Scott, *Liquidated Damages and Penalties,* supra note —; Schwartz, *Supracompensatory Remedies,* supra note –.

[136] Schwartz & Scott, *Contract Theory,* supra note 94 at 568-94; Charles J. Goetz & Robert E. Scott, *The Limits of Expanded Choice: An Analysis of the Interactions Between Express and Implied Contract Terms,* 73 Cal. L. Rev. 261, 313-17 (1985).

[137] Alan Schwartz & Joel Watson, *The Law and Economics of Costly Contracting*, 20 J. L. Econ. & Org. 2 (2004).

[138] See generally VICTOR GOLDBERG, FRAMING CONTRACT LAW: AN ECONOMIC PERSPECTIVE (2006); and Jody S Kraus & Robert E. Scott, *Contract Design and the Structure of Contractual Intent*, (mimeo 2007).