

# Expectations, Loss Distribution and Commercial Impracticability

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## I. INTRODUCTION

The doctrine of commercial impracticability is easy to state and difficult to apply. Simply stated, the doctrine of commercial impracticability "excuses a seller from timely delivery of goods contracted for, where his performance has become commercially impracticable because of unforeseen supervening circumstances not within the contemplation of the parties at the time of contracting."<sup>1</sup> The doctrine is difficult to apply because of the vague statutory language of section 2-615 of the Uniform Commercial Code.<sup>2</sup> Two of the crucial terms, "basic assumptions" and "impracticable," are undefined by the statute and provide no standards. Nor do the accompanying comments. In fact, the official comment states that section 2-615 "deliberately refrains from any effort

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1. U.C.C. § 2-615 comment 1 (1987).
2. U.C.C. § 2-615. Excuse by Failure of Presupposed Conditions.

Except so far as a seller may have assumed a greater obligation and subject to the preceding section on substituted performance:

- (a) Delay in delivery or non-delivery in whole or in part by a seller who complies with paragraphs (b) and (c) is not a breach of his duty under a contract for sale if performance as agreed has been made impracticable by the occurrence of a contingency the non-occurrence of which was a basic assumption on which the contract was made or by compliance in good faith with any applicable foreign or domestic governmental regulation or order whether or not it later proves to be invalid.
- (b) Where the causes mentioned in paragraph (a) affect only a part of the seller's capacity to perform, he must allocate production and deliveries among his customers but may at his option include regular customers not then under contract as well as his own requirements for further manufacture. He may so allocate in any manner which is fair and reasonable.
- (c) The seller must notify the buyer seasonably that there will be delay or non-delivery and, when allocation is required under paragraph (b), of the estimated quota thus made available for the buyer.

at an exhaustive expression of contingencies and is to be interpreted in all cases sought to be brought within its scope in terms of its underlying reason and purpose."<sup>3</sup>

Section 2-615 requires four conditions to be satisfied before a party's performance is excused:<sup>4</sup> (1) the occurrence of a supervening contingency;<sup>5</sup> (2) the nonoccurrence of the resulting contingency was a basic assumption upon formation of the contract;<sup>6</sup> (3) the occurrence of the contingency rendered the agreed performance impracticable;<sup>7</sup> and (4) the occurrence of the contingency was not a risk assumed by the performing party.<sup>8</sup> Excuse is also granted when contractual performance is rendered impracticable "by compliance in good faith with any applicable foreign or domestic governmental regulation or order whether or not it later proves to be invalid."<sup>9</sup>

By treating conditions (2) and (4) as equivalent,<sup>10</sup> judicial gloss on section 2-615 excuses performance when: (1) an unforeseeable contingency has occurred; (2) the risk of the contingency was not allocated by the parties; and (3) the occurrence of the contingency rendered performance commercially impracticable.<sup>11</sup> Because some imprecise terms remain in the judicial reformulation, difficulties in application also remain. Pre-

3. U.C.C. § 2-615 comment 1.

4. See generally J. WHITE & R. SUMMERS, UNIFORM COMMERCIAL CODE § 3-9, at 155 (3d ed. 1988).

5. U.C.C. § 2-615(a); cf. RESTATEMENT (SECOND) OF CONTRACTS § 261 (1979) (containing similar element).

6. U.C.C. § 2-615(a); cf. *Iowa Elec. Light & Power Co. v. Atlas Corp.*, 467 F. Supp. 129, 134 (N.D. Iowa 1978); RESTATEMENT (SECOND) OF CONTRACTS § 261 (1979) (containing similar element).

7. *Iowa Elec. Light & Power Co.*, 467 F. Supp. at 134.

8. *Id.*

9. U.C.C. § 2-615(a); see *Eastern Air Lines, Inc. v. McDonnell Douglas Corp.*, 532 F.2d 957 (5th Cir. 1976) (government request to give specific military projects priority over civilian production constituted a "regulation or order" under § 2-615).

The statute and most case law applies only to sellers. See *Northern Ind. Pub. Serv. Co. v. Carbon County Coal Co.*, 799 F.2d 265 (7th Cir. 1986). For an application to buyers, see *Nora Springs Coop Co. v. Brandau*, 247 N.W.2d 744 (Iowa 1974) and U.C.C. § 2-615 comment 9 (1987). Cf. *Lawrance v. Elmore Bean Warehouse, Inc.*, 108 Idaho 892, 894, 702 P.2d 930, 932 (Idaho Ct. App. 1985) (dicta stating that § 2-615 of the Idaho Uniform Commercial Code is available to buyers); *Northern Ill. Gas Co. v. Energy Coop., Inc.*, 122 Ill. App. 3d 940, 954, 461 N.E.2d 1049, 1060 (1984) (trial court's allowance of buyer's invocation of § 2-615 of the Ill. Commercial Code affirmed).

10. *United States v. Wegematic Corp.*, 360 F.2d 674, 676 (2d Cir. 1966).

11. *Transatlantic Fin. Corp. v. United States*, 363 F.2d 312, 315 (D.C. Cir. 1966); cf. *Neal-Cooper Grain Co. v. Texas Gulf Sulphur Co.*, 508 F.2d 283, 298 (7th Cir. 1974); *Iowa Elec. Light & Power Co.*, 467 F. Supp. 129. See also R. HILLMAN, J. McDONNELL & S. NICKLES, COMMON LAW AND EQUITY UNDER THE UNIFORM COMMERCIAL CODE 7.03, at 7-15 to 7-17 (1985) (characterizing the conditions for the excuse of impracticability).

sumably, these difficulties have induced the courts to construe section 2-615 narrowly.<sup>12</sup> As a general rule, courts never excuse sellers' performance when the market-contract differential is positive. A seller's performance is rarely excused in any case, and then only when performance would result in a large out-of-pocket loss.<sup>13</sup> The determination of the extent of such a loss has not been exact: input cost increases of 1000 percent have been held to excuse performance while increases of less than 100 percent have not excused performance.<sup>14</sup> Vagueness in the statutory term "impracticability" provides no principled basis for these decisions.

Only part of the difficulty in applying section 2-615 is terminological vagueness. Part is also the absence of a good understanding of contractual behavior concerning price adjustment.<sup>15</sup> A fixed-price contract allocates the gains from performance of the agreement between the parties. Changes in the cost of performance over time potentially alter the initial distribution of contractual gains. The parties can take account of the changes ex ante by adopting a mechanism for altering the contract price. Alternatively, the decision can be postponed or assigned to a third party. Or the parties can subsequently adjust the contract price without resorting to the contract at all.<sup>16</sup> Selection of an adjustment mechanism or its

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12. *Iowa Elec. Light & Power Co.*, 467 F. Supp. at 134 n.7; see also *Jennie-O Foods, Inc. v. United States*, 580 F.2d 440, 409 (Ct. Cl. 1978) ("[T]his court has not applied [the doctrine of commercial impracticability] with frequency or enthusiasm."); *McGinnis v. Cayton*, 312 S.E.2d 765, 775 (W. Va. 1984) ("[T]he commercial impracticability doctrine is recognized, but rarely allowed as an excuse for nonperformance.").

13. See, e.g., *Jennie-O Foods*, 580 F.2d at 409; *McGinnis*, 312 S.E.2d at 775; Schwartz, *Sales Law and Inflation*, 50 S. CAL. L. REV. 1, 4-5 (1976). See generally Prance, *Commercial Impracticability: A Textual and Economic Analysis of Section 2-615 of the Uniform Commercial Code*, 19 IND. L. REV. 457 (1986); Stroh, *The Failure of the Doctrine of Impracticability*, 5 CORP. L. REV. 195 (1982).

14. Cf. *Transatlantic Fin. Corp.*, 363 F.2d 312 (12.27%); *American Trading & Production Corp. v. Shell Int'l Marine, Ltd.*, 343 F. Supp. 91 (S.D.N.Y. 1971) (increase of less than 33%); *Mineral Park Land Co. v. Howard*, 172 Cal. 289, 156 P. 458 (1916) (1,000%); *Maple Farms, Inc. v. City School District*, 76 Misc. 2d 1080, 352 N.Y.S.2d 784 (N.Y. Sup. Ct. 1974) (23% increase not basis for excuse from performance). See also Wladis, *Impracticability as Risk Allocation: The Effect of Changed Circumstances upon Contract Obligations for the Sale of Goods*, 22 GA. L. REV. 503, 610-12 (1988); Note, *U.C.C. § 2-615: Defining Impracticability Due to Increased Expense*, 32 U. FLA. L. REV. 516, 535-36 n.162 (1980).

15. See, e.g., Goldberg, *Price Adjustment in Long-Term Contracts*, 1985 WIS. L. REV. 527, 542; Scott, *Conflict and Cooperation in Long-Term Contracts*, 75 CALIF. L. REV. 2005, 2007 (1987); cf. Narasimhan, *Of Expectations, Incomplete Contracting, and the Bargain Principle*, 74 CALIF. L. REV. 1123 (1986) (current doctrines of excuse and modification dependent on a model of contracting in which all contingencies are allocated by contractual provision).

16. See Macaulay, *Non-Contractual Relations in Business: A Preliminary Study*,

alternatives depends, among other things, on the parties' ability to forecast the cost of performance over time, the characteristics of the subject matter of the contract, the opportunities for strategic behavior, and the reliability of enforcement.<sup>17</sup> Identification of these factors does not constitute to a theory of the form price adjustment takes. Without such a theory, courts lack an explanatory ground for intervention by a finding of commercial impracticability.

Another part of the difficulty is normative. Application of section 2-615 requires a principle of justice for distributing losses due to input cost increases between the contracting parties. Assume that a seller contracts with a buyer to provide a good for \$1.00. The seller's production costs at the time are \$.80. Subsequently the seller's costs rise to \$1.20 and the market price of the good rises to \$1.50. Should the seller bear the entire cost of the price increase of \$.50 ( $\$.50 = \$1.50 - \$1.00$ )? Alternatively, should the seller only bear the input price increase in excess of the contract price with the buyer bearing the rest of the price increase of the good?

Under the second alternative, the seller would incur a loss of \$.20 ( $\$.20 = \$1.00 - \$1.20$ ) and the buyer would incur a loss of \$.30 ( $\$.30 = \$1.50 - \$1.20$ ). The buyer's loss of \$.30 is the difference between the market-contract differential (\$.50) and that differential adjusted for the input cost increase (\$.20). Another alternative would be for the buyer to share in part or all of the price increase. Perhaps the seller and the buyer should equally share the price increase?

Assume, to simplify matters, that the seller agreed to bear the risk of a price variation of  $+\$.10$  (i.e.,  $\$.90 < \$1.00 < \$1.10$ ). If the seller's performance is excused, the buyer would lose \$.10 ( $\$.10 = \$1.00 - \$1.10$ ), the amount of the agreed-to price increase. If the seller's performance is enforced, the seller would lose \$.40 ( $\$.40 = \$1.10 - \$1.50$ ), the amount of the unagreed-to price increase. And if the seller's performance is enforced and the unagreed-to increment of the price increase is split equally, the seller would lose \$.20 ( $\$.20 = (\$1.10 - \$1.50)/2$ ) and the buyer would gain \$.20 ( $\$.20 = (\$.50 - \$.10)/2$ ). The selection of one of the above three alternatives is dependent upon the adoption of a normative principle for distributing loss. That normative

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28 AM. SOC. REV. 55 (1963); cf. White, *Contract Law in Modern Commercial Transactions, An Artifact of Twentieth Century Business Life?*, 22 WASHBURN L.J. 1 (1982) (survey evidence suggests that chemical companies ignore both contractual and statutory provisions in allocating products when capacity to fully perform is affected).

17. See Goldberg, *supra* note 15; Goldberg, *Relational Exchange*, 23 AM. BEHAV. SCI. 337 (1980); Goldberg & Erickson, *Quantity and Price Adjustment in Long-Term Contracts: A Case Study of Petroleum Coke*, 30 J.L. & ECON. 369 (1987); Joskow, *Price Adjustment in Long-Term Contracts: The Case of Coal*, 31 J.L. & ECON. 47 (1988).

principle can be considered a principle of justice between the contracting parties. Because neither section 2-615 nor case law contains an explicit principle of justice, justifications of case outcomes are defective. Case outcomes themselves are difficult to predict.<sup>18</sup>

In what follows, I offer a principle of justice for applying section 2-615. The principle is "internal" to the Uniform Commercial Code in two respects: It is consistent with the statutory provisions, and it is suggested by both the comments to section 2-615 and the applicable case law. Section II briefly states a criterion of "internalness." It applies the criterion by considering and rejecting a Rawlsian principle of loss distribution. Section III outlines the standard doctrine of commercial impracticability as applied. It shows what has already been noted: that foreseeability is taken to be a normatively significant factor in excusing sellers' performance. Section IV offers a principle of loss distribution under which foreseeability is treated as normatively justified. Section V presents a serious problem for analyses that make use of notions of foreseeability, denominated as the description problem. A solution to the problem in commercial settings is then presented. Section VI addresses some difficulties in applying the proposed principle of loss distribution. A conclusion and brief comparison with accepted judicial practice are provided in Section VII.

## II. INTERNALNESS

There is one constraint on admissible normative principles of justice under section 2-615: at a minimum, they must be compatible with plausible elements of institutional (judicial) competence. There is nothing unusual here. *Any* adjudicatory principle is under the same constraint. Institutional competence has two components. One is the informational prerequisites to be satisfied by a decision maker — a court in this instance. I delay discussion of this component until Section VI. The other component is one of institutional authority. Here the component concerns both the statutory and judicial basis for adopting a normative principle to apply section 2-615.

Normative principles are "internal" if they are consistent with and supported by both bases. "Internal" normative principles are required

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18. Mueller, *Contract Remedies: Business Fact and Legal Fantasy*, 1967 WIS. L. REV. 833, 837 ("[T]he courts have managed to reach the best solutions on an individual case basis by the seat of their pants."). This is ironic, considering that Llewellyn, the drafter of § 8.7 of the Revised Sales Act which was the forerunner to § 2-615 and its accompanying comments, intended to eliminate uncertainty in case outcomes. See Hawkland, *The Energy Crisis and Section 2-615 of the Uniform Commercial Code*, 79 COM. L. J. 77 (1974) (citing the private notes of Karl Llewellyn). Uncertainty in case outcomes has been reduced, but in an unintended way: a seller's performance is seldom excused.

to satisfy conditions of institutional authority. The notion of support can be characterized, but not precisely defined. It is more than logical consistency and less than a member of a set of deductive consequences. Because "internalness" depends on an authoritative basis, institutional competence is not just a matter of having a comparative advantage in access to information. Institutional competence is not just a matter of being less subject to informational constraints.<sup>19</sup> It also requires support by an "internal" normative adjudicatory principle.

Rawlsian principles of loss distribution illustrate "external" principles. Consider first a version of such principles.<sup>20</sup> The version depends on applying a Rawlsian choice situation and decisional machinery to commercial contexts. On that application, seller and buyer are in a state of partial ignorance. Both are ignorant of existing legal rules for assigning losses due to unforeseeable supervening events. But both parties know that they have entered into a contract and that there is a positive probability of such events occurring. Seller and buyer are to select a principle of loss distribution.

The Rawlsian analogue should be familiar. Seller and buyer are in an original position, subject to a "thin" veil of ignorance. Given the Rawlsian analogue, both are to adopt the maximin rule.<sup>21</sup> The maximin rule is equivalent to the minimax rule because losses are being distributed.<sup>22</sup> Under the minimax rule, every act  $a_1, \dots, a_n$  performed in states of the world  $s_1, \dots, s_m$  is assigned a negative utility payoff  $u_{ij}$ ,  $i = 1, \dots, m$ ,  $j = 1, \dots, n$ . An index is assigned to each act  $a_i$  such that it minimizes the numbers  $u_{i1}, u_{i2}, \dots, u_{in}$ . The minimax rule instructs decision

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19. See G. CALABRESI, *A COMMON LAW FOR THE AGE OF STATUTES* 51 (1982) for a limitation of institutional competence in discerning majoritarian preference. The limitation in effect confines competence to informational access. The operative notion of competence above is broader, because it includes institutional authority. For a use of the notion of institutional competence which is indifferent to the distinction between informational and normative competence, see Summers, *General Equitable Principles Under Section 1-103 Of The Uniform Commercial Code*, 72 *Nw. U.L. REV.* 906, 912-13 (1978) ("Indeed, with respect to most commercial issues, legislators have no institutional competence superior to that of courts.").

20. By calling the principle "Rawlsian," I do not mean to suggest that Rawls would endorse it. For an endorsement of this principle of loss distribution, as well as the model of which it is a part, see Harrison, *A Case for Loss Sharing*, 56 *S. CAL. L. REV.* 573, 595-99 (1983). See also Gillette, *Commercial Rationality and the Duty to Adjust Long-Term Contracts*, 69 *MINN. L. REV.* 521, 569-70 (1985).

21. Harrison, *supra* note 20, at 597. Harrison advocates the maximin rule as an appropriate decision rule for individual choice under uncertainty. See *infra* note 22 and accompanying text. For an application of the maximin rule to two-person games, with a concomitant caution about its appropriateness, see M. SHUBIK, *GAME THEORY IN THE SOCIAL SCIENCES* 218-221, 368-69 (1982).

22. R. LUCE & H. RAIFFA, *GAMES AND DECISIONS* 279 (1957).

makers to select the act that minimizes the maximum loss from selecting an act. That is, the decision maker is instructed to select that  $a_i$  with the lowest associated index. Applied to the example at the beginning, in which each payoff equals  $a(u_{ij})$ , the buyer and the sellers' decision matrix looks like this:

<u>Strategy</u>	<u>State</u>	
	loss assigned to other ( $s_1$ )	loss assigned to self ( $s_2$ )
equal share ( $a_1$ )	25	25
no share ( $a_2$ )	0	50
partial share ( $a_3$ )	10	40

Figure 1

The minimax rule would select  $a_1$ , the equal share strategy,<sup>23</sup> because only  $a_1$  minimizes buyer and sellers' maximum loss. Strategy  $a_3$  would not be selected because, by assumption, the seller and the buyer are ignorant of their respective identities in the analogue original position. Thus, the maximum loss under  $a_3$  is 40, not 10. The equal share strategy, represented by  $a_1$ , is the Rawlsian principle of loss distribution.

The Rawlsian principle is an "external" one on the criterion presented three paragraphs back. It is consistent with the provisions of the Uniform Commercial Code. However, it is supported by neither case law nor the Code's provisions or comments. There is no mention of equal share provisions or allocative principles between merchants.<sup>24</sup> Likewise, of

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23. A rule prescribing the maximization of expected utility (minimizing expected disutility) would be indifferent between  $a_1$ - $a_3$  if  $p(s_1/a_1) = p(s_1/a_2) = p(s_1/a_3) = p(s_1)$  and  $p(s_2) = p(s_2)$ . For endorsement of the equal share distribution as being "eminently sensible," see Mueller, *supra* note 18, at 837.

24. Most of the provisions of Article Two pertaining to merchants concern the formation of contracts. See, e.g., U.C.C. §§ 2-201(2) (between merchants, a written confirmation signed by sender satisfies the Statute of Frauds writing requirement), 2-205 (offer by a merchant in writing giving assurance that offer will not be revoked is irrevocable for the stated time or if no time is stated for a reasonable time), 2-207(2) (between merchants, terms in an offer-varying acceptance become part of the contract unless the offer precludes the variance of terms, the terms materially alter contract, or the offeror seasonably notifies the offeree of an objection to their inclusion). The few allocative provisions pertaining to merchants have nothing to do with the merchant's state of ignorance. See, e.g., U.C.C. §§ 2-509(3) (in instances not covered by subsections (1) or (2) of § 2-509, the risk of loss shifts to the buyer upon his receipt of the goods provided the seller is a merchant), 2-510(2),(3) (the seller or the buyer may treat the risk of loss as resting with the breaching party to the extent of any deficiency in the nonbreaching party's insurance coverage).

course, the assumption of partial ignorance is not supported.<sup>25</sup> In fact, given that many provisions and comments make reference to prior case law,<sup>26</sup> the assumption is unsupported. Ignorance of an existing rule for allocating loss is a necessary condition for the applicability of the analogue original position. By referring to prior case law, the comments to section 2-615 make knowledge of prior legal rules pertinent. So, despite the imprecision of the operative notion of support discussed above, a Rawlsian principle has no basis in the relevant statutory or case law.

It is also unjustified. To begin with, the application of Rawlsian principles to commercial settings is inappropriate. Rawls's choice situation and decisional machinery are applicable only to the selection of principles governing the basic structure of society. Rawls takes the basic structure to include the major political, social, and economic institutions. Commercial contracts are frequently local transactions. Principles of loss distribution for such transactions, therefore, do not involve the basic structure of society. Rawls himself has emphasized the distinction between local transactions and the basic structure.<sup>27</sup> It is a nonsequitur to transfer Rawls's choice situation and decisional machinery to the selection of principles governing local transactions. Rawls states that "the maximin criterion is not meant to apply to small-scale situations, say, to how a doctor should treat his patients or a university its students. For these situations different principles will presumably be necessary. Maximin is a macro not a micro principle."<sup>28</sup> He further asserts that "what are

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25. See, e.g., U.C.C. § 2-509(3) (the risk of loss shifts to the buyer upon the buyer's receipt of goods provided that the seller is a merchant; otherwise, the risk of loss passes to the buyer upon seller's tender of delivery). Provisions of Article Nine concerning priorities of security interests in the same collateral are also indifferent to a party's ignorance. See, e.g., U.C.C. §§ 9-312(5) (1987) (first party to file or perfect a security interest has priority even if party having priority knew of existence of competing security interest), 9-312(4) comment 5, example 1 (purchase money security interest in noninventory has priority over competing nonpurchase money security interest if properly perfected; knowledge of competing security interest is irrelevant), 9-307(1) (buyer in the ordinary course of business from a nonmerchant farmer takes free of a security interest created by his seller even if buyer knows of its existence).

26. E.g., U.C.C. § 1-103 (indirectly via reference to "the principles of law and equity"); see also U.C.C. § 2-615, comment 4 and cited cases.

27. See Rawls's writings following *A THEORY OF JUSTICE* (1971): Rawls, *Some Reasons for the Maximin Criterion*, 64 *AM. ECON. REV.* 141, 141-42 (1974); Rawls, *A Well-Ordered Society*, in *POLITICS, PHILOSOPHY AND SOCIETY, FIFTH SERIES* 1, 16 (P. Laslett & J. Fishkin eds. 1979); Rawls, *The Basic Structure as Subject*, in *VALUES AND MORALS* 47, 59-60 (A. Goldman & J. Kim eds. 1978); Rawls, *The Basic Liberties and Their Priority*, in *LIBERTY, EQUALITY AND LAW: SELECTED TANNER LECTURES ON MORAL PHILOSOPHY* 1, 15 (S. McMurrin ed. 1987) [hereinafter *Basic Liberties*]; Rawls, *The Idea of an Overlapping Consensus*, 7 *OXFORD J. LEGAL STUD.* 1, 3, 3 n.3 (1987).

28. Rawls, *Some Reasons for the Maximin Criterion*, *supra* note 27, at 142.



fair terms for joint-partnerships and for associations, or for small groups and teams, are not suitable for *social* cooperation."<sup>29</sup>

Suppose, however, that Rawls is wrong here. That is, suppose that Rawls's choice situation applies to local transactions, including commercial contracts. The seller and the buyer are in a state of partial ignorance, as discussed above. The minimax rule still would not be adopted as a decision rule, however, because not all the features for adopting the rule are satisfied. Adoption of the minimax rule requires that: (1) the choice situation is such that probability assignments are absent or not well defined; (2) the decision maker is not concerned with avoiding losses above those assigned by the minimax payoff index; and (3) other strategy choices have payoffs that the decision maker finds unacceptable.<sup>30</sup> The problem that arises is that in commercial settings features (2) and (3) are not present. The absence of each feature is discussed below.

Feature (2): Assume that seller and buyer are firms whose capital structure includes publicly traded common stock and debt. Now the common stock of leveraged firms can be treated as a call option on the firm's assets.<sup>31</sup> The value of an option is the difference between the stock price and its exercise price. An option will not be exercised if its exercise price exceeds the stock price because its value will never be below zero. This means that the value of an option increases as the stock becomes more volatile. Given the same mean return, an option on stock with a greater variance is more valuable than a stock with less variance.<sup>32</sup> Thus, the option with the greater variance will be preferred.

29. *Basic Liberties*, *supra* note 27, at 15 (emphasis added).

30. Cf. J. RAWLS, *A THEORY OF JUSTICE* 154-56 (1971). The statement of the features in the text is cast in terms of the minimax rule because losses are involved. Rawls is unclear whether features (1)-(3) are jointly sufficient or only individually necessary. The argument below does not depend on either treatment because it rejects features (2) and (3).

Note that feature (1) also is not satisfied because the utility payoffs in Figure 1 already reflect attitudes toward risk. In particular, the payoffs are constructed by reference to probability assignments to outcomes: objective probabilities if Von Neuman-Morgenstern functions are used, and subjective probabilities if Ramsey functions are used. This is one reason why Rawls makes use of a notion of primary goods, not utilities, in evaluating social states. J. RAWLS, *supra*, at 155. I do not discuss the point because it is well known in the literature. See, e.g., ARROW, *Some Ordinalist Utilitarian Notes on Rawls' Theory of Justice*, 70 *J. PHIL.* 251, 256-57 (1973).

31. See R. BREALEY & S. MYERS, *PRINCIPLES OF CORPORATE FINANCE* 430-31, 442-43 (2d ed. 1984); V. BRUDNEY & M. CHIRELSTEIN, *CORPORATE FINANCE: CASES AND MATERIALS* 290-92 (3d ed. 1987) for a summary of the points made in this and the next two sentences. For experimental evidence on risk preferences in choice situations approximating a Rawlsian original position, see *infra* note 35.

32. This is true even if the probability density functions do not describe normal distributions.

Because common stock in leveraged firms can be treated as options, common stockholders will prefer mean-equivalent, more volatile projects. They will be concerned with gains above those guaranteed by the maximin payoff index. Equivalently, they will not be concerned with avoiding losses above those that the minimax payoff index guarantees. Therefore, feature (2) is not present in leveraged firms.

To be sure, leveraged firms themselves will adopt restrictive covenants to avoid common stockholders from exploiting debt holders by acting on their preference. This is irrelevant. For the point is not that common stockholders will not be prevented from accepting mean-equivalent, more volatile projects. It is simply that they have a preference for doing so. And this is sufficient to show that feature (2) is not present. Put simply, if the decision maker is a firm and its managers' choices reflect stockholder preferences, the firm will be risk-neutral or risk-preferring.

Feature (3): Assume, as was assumed above, that Rawls's choice situation applies both to the basic structure and local transactions. Application of the minimax rule in the original position is taken to yield a set of payoffs acceptable to the parties. By assumption, those are the payoffs guaranteed by adopting the minimax rule, as applied to the basic structure. The parties in a state of partial ignorance know this much. After all, they adopted the minimax rule. Because the parties know that they are guaranteed acceptable payoffs, they have no reason to find that other strategy choices in local transactions have unacceptable payoffs.

In fact, just the opposite occurs. The parties know that other strategy choices cannot have unacceptable payoffs in local transactions because the minimax rule has already been adopted and applied to the basic structure. This guarantees acceptable payoffs. Thus, the parties have no reason to adopt the rule for local transactions. To apply it to local transactions is to apply the minimax rule twice. Double application is not, by itself, implausible. However, it is implausible when one of the features necessary for *adopting* the minimax rule for local transactions in the first place is removed by its *application* to the basic structure. Application of the minimax rule to the basic structure removes feature (3) as a reason for adopting the rule for local transactions. Hence, the minimax rule will not be adopted in commercial contexts. Nor, therefore, will a Rawlsian principle of loss distribution that requires equal sharing be adopted.

Assume, finally, that the minimax rule is not applied to the basic structure. The seller and the buyer in commercial contexts still would not adopt the minimax rule. This is because features (2) and (3) are not present in commercial contexts, such contexts being local transactions. Feature (2)'s absence in commercial contexts is independent of the minimax rule being applied to the basic structure. The argument concerning

feature (2) above establishes this independence. That argument only assumes that the class of sellers and buyers includes leveraged firms in which not all common stockholders are also debt holders in the same enterprise. The assumption is a weak and reasonable one and entails nothing about the minimax rule's application to the basic structure. Hence, feature (2) is not present in local transactions even if the minimax rule is not in force at the level of the basic structure.

Neither is feature (3) present in local transactions. Recall that feature (3) involves strategy choices other than the minimax rule which have payoffs that the decision maker finds unacceptable. The decision makers are seller and buyer in the analogue of the original position. The seller and the buyer include firms consisting of common stockholders. Note that strategy choices other than the minimax rule have payoffs which these stockholders find acceptable. In particular, common stockholders would find a rule assigning the full loss resulting from unforeseeable supervening events to one party (e.g., seller) acceptable. Acceptability, at least where common stockholders are concerned, is not a direct function of the losses consequent of a single strategy choice. Presumably it depends on two factors: the proportion of those losses to the stockholder's net wealth and the stockholder's other investments. Alter the net wealth of a seller or buyer, and the loss distribution rules in Figure 1 may be ranked differently. Familiar data about choice behavior in decisions involving "small" or "large" losses support this observation.<sup>33</sup> Alter the portfolio of investments of a seller or buyer, and the ranking of rules in Figure 1 again may change.

The application of both factors to the common stock shareholder should be apparent. If the stockholder's investment in the firm of the seller or buyer is "small" relative to her net wealth, losses in excess of those prescribed by the minimax rule may be acceptable. Whether they are in fact acceptable, of course, depends on the investment and net wealth of the particular stockholder, and whether the common stockholder diversifies to reduce systematic and unsystematic risk.<sup>34</sup> In the limiting case in which one investment is a perfect hedge for another investment, a stockholder will be indifferent between all loss distribution rules. For instance, in Figure 1, if the stockholder has equally valued shares in seller and buyer, then her net loss will be the same in  $a_1$ - $a_3$ : 50. Thus, loss distribution rules  $a_1$ - $a_3$  will have equally acceptable payoffs. Obviously, whether either factor identified obtains equally acceptable

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33. See K. ARROW, *ESSAYS IN THE THEORY OF RISK BEARING* 93 (1971).

34. See R. BREALEY & S. MYERS, *supra* note 31, at 123-26; H. RAIFFA, *DECISION ANALYSIS: INTRODUCTORY LECTURES ON CHOICES UNDER UNCERTAINTY* 97-100 (1968); W. SHARPE, *PORTFOLIO THEORY AND CAPITAL MARKETS* 146-50 (1970).

payoffs is an empirical matter. But the point here is modest: feature (3) may not be present at the level of local transactions even if the minimax rule is inapplicable at the level of the basic structure.<sup>35</sup> Hence, again, assessments of the respective scope of the minimax rule are independent of each other.

### III. STANDARD DOCTRINE OF COMMERCIAL IMPRACTICABILITY

It is worth emphasizing that a specific normative principle of loss distribution is required. The principle must be specific in two ways. First, a well-defined prescriptive basis for assigning losses as between seller and buyer is needed. Second, the principle must be asymmetric in its prescriptive force. If a loss is justifiably assigned to the seller (buyer), then it is not *also* justifiably assigned to the buyer (seller) on the same basis. Candidate principles that are cast only in broad terms are unhelpful. They exhibit one of two defects. The defects correspond to the ways in which a principle of loss distribution must be specific. A candidate principle itself can be unjustified. This occurs when a principle contains no normatively compelling basis for assigning loss. Alternatively, the candidate principle can justify an assignment of loss to one party when it equally justifies the loss assignment to the other party. "Assign loss to the wealthier party as between seller and buyer," without more, is an unjustified principle of loss distribution. Wealth *alone* is not a compelling basis for the assignment. "Assign loss to the party capable of avoiding or reducing the risk of non-performance," without more, also justifies assigning the loss to seller and buyer.

Commentators' candidate principles of loss distribution often are cast in unhelpfully broad terms. One suggestion is that sophisticated contractors undertaking an unqualified duty of performance should bear the entire loss because it is "most fitting."<sup>36</sup> Another suggestion is that,

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35. Some experimental evidence suggests that subjects selecting distributive principles in choice situations approximating a Rawlsian original position reject the minimax rule. Frohlich, Oppenheimer & Eavey, *Laboratory Results on Rawls's Distributive Justice*, 17 BRIT. J. POL. SCI. 1, 11 (1987) [hereinafter *Laboratory Results*]; Frohlich, Oppenheimer & Eavey, *Choices of Principles of Distributive Justice in Experimental Groups*, 31 AM. J. POL. SCI. 606, 617 (1987) [hereinafter *Distributive Justice*]. In most cases, subjects instead select a distributive principle which requires maximizing average income subject to a constraint on minimum income. *Laboratory Results*, *supra*, at 11; *Distributive Justice*, *supra*, at 620. A distributive principle requiring maximization of average income frequently is selected when higher variance payoffs are present and sometimes selected when losses are to be distributed. *Distributive Justice*, *supra*, at 620-21.

36. Trakman, *Frustrated Contracts and Legal Fictions*, 46 MOD. L. REV. 39, 51 (1983); *cf.* Halpern, *Application of the Doctrine of Commercial Impracticability: Searching for "The Wisdom of Solomon,"* 135 U. PA. L. REV. 1123, 1130 (1987) (urging the use of "flexible and workable tools" in applying the impracticability doctrine). *Contra* Trakman, *supra*, at 53.

absent the contractors' expectations, "basic principles of fairness and justice should be applied"<sup>37</sup> to assign loss. Or it is urged that, given accurate estimates of probability, negotiation, and litigation costs, the performing "party on whom the loss initially falls cannot complain."<sup>38</sup> The suggestion relies on the fact that the parties will bear the cost of identifying and shifting the risk of loss up to the point where the marginal cost of doing so equals the marginal benefit risk reduction yields. Each prescription appeals just to general normative notions. And each is thereby defective.

"Most fitting" may not be a normative basis at all. Even if it is one, the basis is not well-defined. The seller's cost of performance increases as a result of increases in input costs. No provision for increases in the contract price may have existed in the initial agreement. What is normatively "most fitting" about assigning the consequent loss to seller? Basic principles of justice and fairness provide no reason for any particular allocation of losses at all. No prescriptively significant feature of the transaction or the parties is identified. The notions appealed to, standing alone, simply are vague.

Further, the requirement of asymmetrical justificatory force is violated. It may be equally "fair" or "just" to assign consequent losses to either seller or buyer. The appeal to a notion of not being able to complain, by itself, is unhelpful. Supplementation with an assumption is needed. The assumption here<sup>39</sup> is that a loss remains with the performing

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37. Farnsworth, *Disputes Over Omission in Contracts*, 68 COLUM. L. REV. 860, 881 (1968).

38. Gillette, *supra* note 20, at 537.

39. *See id.* at 538 (the failure to allocate a risk "may constitute a decision by the party who will suffer from the risk's materialization that the expected loss from the risk is not worth the resources that would have to be invested to identify it and allocate it expressly"); *cf.* Priest, *Breach and Remedy for the Tender of Nonconforming Goods Under the Uniform Commercial Code: An Economic Approach*, 91 HARV. L. REV. 960, 963 (1978) ("To the extent that the parties neglect specification in the contract, they leave to courts the task of deducing the attributes upon which they 'agreed.'").

The suggestion is that all risks can be allocated by contractual provision. This supposition may not always be true. Some low probability events may be unforeseeable, in which case the risk of their occurrence will not be allocated. *See* Bishop, *The Contract-Tort Boundary and the Economics of Insurance*, 12 J. LEGAL STUD. 241, 249 (1983). The risk of other events, although foreseeable, cannot be allocated due to the conceptual difficulty of constructing an appropriate contractual provision. *See, e.g.,* Harris Corp. v. National Radio and Television, 691 F.2d 1344, 1358 (11th Cir. 1982) (argument that customer under a standby letter of credit could have protected itself against risk of a fraudulent demand by the beneficiary "is to ignore the realities of the drafting of commercial documents"). Market price formulas for adjusting contract price when the good is a nonhomogeneous commodity are instances of inadequate provisions. *See, e.g.,* Joskow, *supra* note 17, at 54-55 (market price formulas in long-term coal contracts fail to define

party if the risk of that loss has not otherwise been allocated. However, the assumption is unsound.

Absent a supplementary principle, there is no reason to require the performing party to bear the risk of loss in the first place. There is no reason why an otherwise unallocated risk of loss should not be allocated by the parties' ex post negotiations.<sup>40</sup> To impose the loss on the performing party unless its risk is shifted is to presuppose that that party is to bear the risk initially. The same risk, after all, could be assigned to the nonperforming party initially. In the case of the nonperforming party, given the above assumption, the nonperforming party also would have no complaint. Hence, unsupplemented, this candidate principle violates the requirement of asymmetrical justificatory force. Given different initial assignments with regard to the bearer of the risk of loss, both the seller and the buyer could not (could) complain.

General Uniform Commercial Code provisions and comments, the comments to section 2-615, and case law support the adoption of a normative principle based on foreseeability. The first two sources support its adoption indirectly. Section 1-103 provides that, "unless displaced by the particular provisions of" the Uniform Commercial Code, principles of equity "supplement its provisions."<sup>41</sup> Because section 2-615 does not displace them,<sup>42</sup> equitable principles apply. Section 1-102(3) provides that the provisions of the Uniform Commercial Code may be varied by agreement.<sup>43</sup> Therefore, absent agreement to the contrary, equitable principles apply under section 1-103.

Comment 6 to section 2-615 states that "[i]n situations in which neither sense nor justice is served . . . when the issue is posed in flat terms of 'excuse' or 'no excuse', adjustment under the" Act's provisions is necessary, including recourse to equitable principles.<sup>44</sup> This appears

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an appropriate market price norm due to geographic variations, quality, and transportation costs; a completely contingent contract will be difficult or impossible to draft in such cases). The inability to allocate the risk of some events by contract has been taken to define relational contracts. See Goetz & Scott, *Principles of Relational Contracts*, 67 VA. L. REV. 1089, 1091 (1981). The criticism in the paragraph below does not depend on denying Gillette's deniable supposition.

40. Cf. Hillman, *Court Adjustment of Long-Term Contracts: An Analysis Under Modern Contract Law*, 1987 DUKE L.J. 1, 12-13 ("In a fixed-price contract, . . . there is no persuasive reason why even foreseeable risks must fall automatically on a party rather than trigger an adjustment duty.").

41. See U.C.C. § 1-103 (1987).

42. See U.C.C. § 2-615 comment 6 (recourse to general equitable principles advancing commercial standards and good faith to be used when issue cannot be posed as one of "excuse" or "no excuse").

43. See U.C.C. § 1-102(3); cf. U.C.C. §§ 1-102(1)-(2); 1-102 comment 3.

44. U.C.C. § 2-615 comment 6.

to allow appeal to equitable principles that have just outcomes in cases involving section 2-615.<sup>45</sup> Direct support comes from other comments to section 2-615. Comment 1 specifies that section 2-615 applies when performance becomes commercially impracticable through unforeseeable supervening events.<sup>46</sup> Comment 4 specifies that performance is excused when the increased cost is due to some unforeseeable contingency that alters the "essential nature" of performance.<sup>47</sup> Putting the indirect and direct support together: in applying section 2-615, courts can appeal to principles, including equitable principles, to achieve just outcomes on the basis of foreseeability.

Case law further supports this unexciting conclusion. Courts, in applying section 2-615, typically focus on the foreseeability of a supervening event.<sup>48</sup> As the court in *In re Westinghouse Electric Corp. Uranium Contracts Litigation* succinctly put it: "Where the promisor had no reason to anticipate a supervening event which radically increases the difficulty of performance, or which renders performance impossible, it is manifestly unfair to hold him to the agreement."<sup>49</sup> Foreseeability of an event is taken to be logically distinct from risk allocation with respect to that event.<sup>50</sup> Hence, the distinctness of the statutorily specified conditions in section 2-615 is recognized. In practice, however, courts take the foreseeability to be contingently connected to risk allocations.<sup>51</sup> A

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45. *Cf., e.g., Opera Co. of Boston, Inc. v. Wolf Trap Found. for the Performing Arts*, 817 F.2d 1094, 1100 (4th Cir. 1987) ("the modern and prevailing doctrine of impossibility of performance as a defense to a breach of contract" is essentially equitable in character).

46. U.C.C. § 2-615 comment 1.

47. U.C.C. § 2-615 comment 4.

48. *See, e.g., Alimenta (U.S.A.), Inc. v. Gibbs Nathaniel (Canada) Ltd.*, 802 F.2d 1362 (11th Cir. 1986); *Cook v. Deltona Corp.*, 753 F.2d 1552, 1558 (11th Cir. 1985); *Waldinger Corp. v. CRS Group Engineers, Inc.*, 775 F.2d 781, 786 (7th Cir. 1985); *Roy v. Stephen Pontiac-Cadillac, Inc.*, 15 Conn. App. 101, 105, 543 A.2d 775, 778 (1988); *Nora Springs Coop Co. v. Brandau*, 247 N.W.2d 744, 747-48 (Iowa 1976); *Mishara Constr. Co., Inc. v. Transit-Mixed Concrete Corp.*, 365 Mass. 122, 128, 310 N.E.2d 363, 367 (1974).

Courts also focus on foreseeability in determining contractual duties under agreements not governed by Article 2 of the Uniform Commercial Code. Contractual modification provides a well known instance. *See* RESTATEMENT (SECOND) OF CONTRACTS § 89 (1981) ("A promise modifying a duty under a contract not fully performed on either side is binding. . . if the modification is fair and equitable in view of circumstances not anticipated by the parties when the contract was made. . ."). *See also* *Recker v. Gustafson*, 279 N.W.2d 744 (Iowa 1979); *Angel v. Murray*, 113 R.I. 482, 322 A.2d 630 (1974).

49. 517 F. Supp. 440, 454 (E.D. Va. 1981), *partially rev'd*, 826 F.2d 239 (4th Cir. 1987).

50. *Transatlantic Fin. Corp. v. United States*, 363 F.2d 312, 319 (D.C. Cir. 1966).

51. *See, e.g., Northern Ind. Pub. Serv. Co. v. Carbon County Coal Co.*, 799 F.2d

party who could foresee the occurrence of a supervening event is either *found* to have assumed the risk of its occurrence or *held* to have assumed that risk.<sup>52</sup> That is, foreseeability is taken either to be *evidence* of risk allocation or to be a *reason* for imposing the pertinent risk on a party. In either case, foreseeability is being used to allocate the cost of price increases between the contracting parties. Hence, standard applications take foreseeability to be normatively primary.

As a matter of applying section 2-615, this treatment is of course unobjectionable. Because unforeseeability is a necessary condition for excusing a seller's performance, a court need only determine foreseeability to order enforcement of the contract. Determining the parties' risk allocation is superfluous. The omission presumably is justified by a sometimes-stated premiss: A party who reasonably anticipates a contingency bears the responsibility of using its knowledge to allocate risk by contractual provision.<sup>53</sup> Foreseeability, therefore, is a normatively significant feature of the contracting parties. However, by itself foreseeability is not normatively significant and is an insufficient reason to impose liability for a price increase. Contracting parties are not liable, contractually or otherwise, for all the foreseeable risks of their conduct. Rather, performance is required only with respect to those foreseeable risks that were allocated by the parties' bargain. The following Section offers a normative principle connecting the parties' bargain and foreseeability.

#### IV. LOSS DISTRIBUTION: FORESEEABILITY NORMATIVELY JUSTIFIED

Under which condition is it permissible to impose liability on a party for the occurrence of a harm (a cost or a loss)? This is a general normative question, not peculiar to issues of commercial impracticability. Applied to commercial impracticability, the question is equivalent to another: Under what conditions should a contracting party bear the loss

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265, 278 (7th Cir. 1986); *Asphalt Int'l, Inc. v. Enterprise Shipping Corp.*, 667 F.2d 261, 265 (2d Cir. 1981); *In re Westinghouse*, 517 F. Supp. at 454; *Iowa Elec. Light & Power Co. v. Atlas Corp.*, 467 F. Supp. 129, 133 (N.D. Iowa 1978); *Nora Springs Coop Co.*, 247 N.W.2d at 747.

52. See, e.g., *Cook v. Deltona Corp.*, 753 F.2d 1552 (11th Cir. 1985); *United States v. Wegematic Corp.*, 360 F.2d 674 (2d Cir. 1966); *Berg v. Erickson*, 234 F. 817 (8th Cir. 1916).

53. See *Nora Springs Coop Co.*, 247 N.W.2d at 747; cf. *Lloyd v. Murphy*, 25 Cal. 2d 48, 54, 153 P.2d 47, 50 (1944) ("If it was foreseeable there should have been provision for it in the contract, and the absence of such a provision gives rise to the inference that the risk was assumed."); Farnsworth, *supra* note 37, at 876 ("courts properly try to realize the actual expectations of the parties even when they have not reduced them to contract language.").



for the increased cost of an input or the diminution in the value of performance? More simply: Under what conditions should a party bear the loss for an event rendering one party's performance uneconomical? To say that contractual liability is permissibly imposed when deserved is unhelpful. It does not specify the conditions under which a party deserves to bear a loss (a cost or a harm). It does not follow that a deserved loss, however specified, ought to be imposed. Supplementary premisses are required.

One suggestion appeals to the notion of consent. A party deserves to bear those losses to which she has consented. Absent express consent, the notion of consent can be taken to be equivalent to ex ante compensation. This is Posner's suggestion.<sup>54</sup> Because consent clearly entails foreseeability, the normative requirement of foreseeability in Section III is satisfied. An argument for imposing loss goes as follows:

- (1) Parties should only bear the losses they deserve.
- (2) Deserved losses are losses to which a party consents.
- (3) Parties consent to losses, the risk of which they are compensated to bear ex ante.
- (4) Therefore, parties should bear the loss, the risk of which they are compensated to bear ex ante.

Premiss (3) contains Posner's crucial suggestion.<sup>55</sup> The premiss also has been subject to severe criticism. Commentators<sup>56</sup> have pointed out the failure: It does not follow from the fact that a party is compensated, ex ante or ex post, that that party consented to the resulting loss. Thomson has noted the failure of truth-functionally valid inferences in modal contexts involving consent, as in the following:<sup>57</sup>

If [C(if p then q) and p], then Cp.

54. Posner, *The Ethical and Political Basis of the Efficiency Norm in Common Law Adjudication*, 8 HOFSTRA L. REV. 487, 492 (1980); see also Schwartz, *supra* note 13, at 8.

55. Posner, *supra* note 54, at 492.

56. E.g., Coleman, *Efficiency, Utility, and Wealth Maximization*, 8 HOFSTRA L. REV. 509, 535-36, 536 n.45 (1980); Dworkin, *Why Efficiency?*, 8 HOFSTRA L. REV. 563, 575-76 (1980).

57. Cf. J. THOMSON, *RIGHTS, RESTITUTION AND RISK* 189 (1986). The above is an instance of the failure of modus ponens in modal contexts. For other well-known inferential failures in (alethic) modal contexts, see L. LINSKY, *OBLIQUE CONTEXTS* 98-99 (1983); W. QUINE, *FROM A LOGICAL POINT OF VIEW* 141-42 (2d ed. 1980); W. QUINE, *WORD AND OBJECT* 151 (1960). For an implicit recognition of the above failure in tort law, when consent is at issue, see Simons, *Assumption of Risk and Consent in the Law of Torts: A Theory of Full Preference*, 67 B.U.L. REV. 213, 217 (1987) ("Participants in a game know that injuries often occur. And they choose to participate in the game with that knowledge. Do they legally consent to the risks of all injuries that they can foresee? I seriously doubt that they do.").

Let "C" be the one-place, non-alethic modal operator "Jones consents to . . . ." Suppose Jones consents to losing a dollar if a card marked "7" is drawn from the deck. A card marked "7" is drawn. Jones may or may not consent to losing a dollar in the circumstances. His consent cannot be inferred just from the truth of the previous two sentences. Hence, sentence variables within modal operators cannot be detached from those operators, as the inference in (3) above requires. This conclusion has a normative corollary. The corollary is that the justificatory basis of (4) is not consent. Contrary to premiss (3), parties need not consent to a loss, the risk of which they are compensated to bear *ex ante*. Modality aside, Posner's implicit inference is still invalid: Invalidity obviously results even if "consent propositions" are interpreted truth-functionally. For from the fact that you have consented to the risk that events p or q or r will occur, it does not follow that if q occurs, you have consented to its occurrence. Detachment of a disjunct is invalid here as well.

Nevertheless, the unsoundness of premiss (3), Posner's suggestion, is not fatal to the above argument. Premiss (3) can be replaced with the following:

- (3)' Parties cannot justifiably object to losses, the risk of which they are compensated to bear *ex ante*,

the remainder of the above argument being altered accordingly. The justification of premiss (3)' is as follows. Using Posner's example,<sup>58</sup> compare the outcome of a lottery with being the victim of a crime. Suppose one is compensated *ex ante* in both cases. Absent fraud or duress, the lottery "victim" has no grounds for complaint. On what grounds can the victim of a crime complain? The victim of the crime may not complain on the basis of there being a person-assailant in the crime case and not in the lottery case. A person could function as a "randomizer" in a lottery (*e.g.*, whichever number Jones selects wins). Thus, the presence of a person inducing the loss or risk of loss is irrelevant.

Further, the complaint cannot be based on the sort of loss a party was compensated to bear. Suppose I am given \$100 to bear a .10 risk of the loss of a watch valued at \$1000. Whether the loss is classified as monetary or as a loss of a valuable and exchangeable good seems irrelevant. Also irrelevant is the claim, again, that the party had an unequal prospect of being a crime victim *vis-a-vis* other parties. The victim's prospects in fact could be equal to those of other potential victims. Finally, it is irrelevant that the party failed to bargain with the

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58. Posner, *supra* note 54, at 492.

crime victim. If transaction costs are high, neither party would prefer to bargain. The objection therefore must be that the party did not consent to the transfer. And that does not show that the transfer itself was objectionable, as noted two paragraphs up.

Instead, the crime victim's basis of complaint concerns the *acceptable alternatives* to bearing a risk, even if compensated. In particular, the victim has no opportunity to refuse to bear the risk. Alternatively, if refusal is possible, the consequence is deemed unacceptable. It may be deemed unacceptable for a number of reasons. The outcome itself is deemed unacceptable. (Contrast this with the alternative outcomes of receiving \$100 or \$1000, no other consequences attached.) Or the outcome would be unacceptable were collective action problems not present. Alternatively, it may be acceptable to the *choosing party*, but weakens the position of others selecting an option yielding the same outcome. The victim also does not have the opportunity to bargain for a different, and presumably higher, level of compensation. Therefore, a fuller but still rough formulation of (3)' would be:

(3)' If the party expects (foresees) an event to occur with probability  $p$ ; if she is compensated for that event's occurrence (to her); and if she has the opportunity to refuse the compensation or bargain for a different level of compensation, either being acceptable alternatives; then if the event occurs, she cannot justifiably object.

Precisely enumerating the conditions in (3)' is difficult. Difficulties in stating what constitutes an acceptable alternative, either in refusing to bargain or in altering the compensation level, are apparent. Buyers may in fact have no opportunity to bargain for a different compensation level at all. Compensation levels can be set by standard form contracts. And a buyer may have relatively unique demands for a particular level.<sup>59</sup> If both possibilities occur, the marginal cost to a seller of offering a nonstandard compensation level will exceed the marginal benefit to the buyer. Hence, sellers will not offer such buyers the opportunity to bargain for a nonstandard level of compensation. They will respond only to aggregate demand, not to relatively unique buyer demand.<sup>60</sup> This is not a sufficient condition for the unacceptability of an alternative.

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59. See Schwartz, *A Reexamination of Nonsubstantive Unconscionability*, 63 VA. L. REV. 1053, 1064-66 (1977).

60. *Id.* at 1064-66; Schwartz, *Seller Unequal Bargaining Power and the Judicial Process*, 49 IND. L.J. 367, 377-78, 386 (1974); see also Trebilcock, *The Doctrine of Inequality of Bargaining Power: Post-Benthamite Economics in the House of Lords*, 26 U. TORONTO L.J. 359 (1976).

Specifying all the conditions in (3)" is unnecessary here. For in commercial settings, the parties typically have the acceptable alternatives of not entering into the contract or of bargaining for a different compensation level. Indeed, cases concerning issues of commercial impracticability often involve nonstandard contracts that are the product of elaborate negotiations.<sup>61</sup> In commercial settings involving merchants, provisions concerning the unconscionability of contract clauses also apply via section 2-302.<sup>62</sup> Because a compensation level is specified by a contract clause, section 2-302 is applicable independently of section 2-615. Thus, the condition in (3)" concerning acceptable alternatives is superfluous in commercial settings. Only the above conditions concerning expectations and compensation are left. Hence, in commercial settings only compensated-for expectations (foresight) of risk are important.

A party cannot justifiably object to bearing the loss of foreseeable events, the risk of which she was compensated ex ante. To require performance given unforeseeable supervening events is objectionable because performance under the circumstances is an unbargained for advantage.<sup>63</sup> It is, therefore, undeserved according to the above argument. Call that part of premiss (3)" that concerns compensation and foresight the compensation-expectation principle.

A simple model<sup>64</sup> of production under risk supports use of the compensation-expectation principle here. Let  $C$  be the total cost to the seller of providing a unit of a particular good to buyer. Let  $c_i$  be the

61. See *ALCOA v. Essex Group, Inc.*, 499 F. Supp. 53 (W.D. Pa. 1980) and *Eastern Air Lines, Inc. v. Gulf Oil Corp.*, 415 F. Supp. 429 (S.D. Fla. 1975) for two notable instances.

62. U.C.C. § 2-302(1) states: "If the court as a matter of law finds the contract or any clause of the contract to have been unconscionable at the time it was made the court may refuse to enforce the contract, or it may enforce the remainder of the contract without the unconscionable clause, or it may so limit the application of any unconscionable clause as to avoid any unconscionable result." U.C.C. § 2-302(1) (1987).

63. See, e.g., *Waldinger Corp. v. CRS Group Engineers, Inc.*, 775 F.2d 781, 786 (7th Cir. 1985); *Roy v. Stephen Pontiac-Cadillac, Inc.*, 15 Conn. App. 101, 105, 543 A.2d 775, 778 (1988); *Mishara Constr. Co., Inc. v. Transit-Mixed Concrete Corp.*, 365 Mass. 122, 128, 310 N.E.2d 363, 367 (1974).

64. The model is a variant on the efficient insurer model offered by Goetz and Scott in another context. See Goetz & Scott, *Liquidated Damages, Penalties and the Just Compensation Principle: Some Notes on an Enforcement Model and a Theory of Efficient Breach*, 77 COLUM. L. REV. 554, 579-83 (1977). It differs from Goetz and Scotts' model principally in that the probability of input price increases is treated as being stochastically independent of the seller and the buyers' actions. The treatment therefore assumes that there is no question of moral hazard. For a treatment of warranties in which consumers and manufacturers allocate investment in precautions and insurance according to comparative cost, see generally Priest, *A Theory of the Consumer Product Warranty*, 90 YALE L.J. 1297 (1981).

cost to the seller of purchasing input  $i$  at the time of production. A unit of every required input 1, 2, . . . ,  $n$  is needed to produce a unit of the produced good. Seller's total production cost, unadjusted for the risk of input price changes, is summarized as  $C = c_1 \dots + c_i \dots + c_n$ . There is a prospect that input prices will increase after the seller and the buyer have contracted. The seller must be compensated to bear the risk of that prospect. The risk is also a production cost to the seller. Two elements enter into the seller's risk-bearing cost. One is the expected value of the seller's loss on the contract should input prices increase. Define seller's expected value of loss as the product of  $p(c + l)$ ,  $c, l > 0$ ,  $p$  being the probability that an input will cost a given amount at the time of production,  $c$  a particular input price, and  $l$  a random variable with a positive mean. A second element is the resources expended in determining the values of  $p, c$ , and  $l$ , respectively. Let this expenditure be described by  $r$ . Then seller's expected risk-bearing cost<sup>65</sup> for an input  $i$  is  $E(c_i) = (1 - p)c_i + [p(c + l)_i + r]$ . Assuming that risk-bearing for input prices is a competitively priced activity with a normal rate of profit,  $\pi$ , seller's risk-bearing compensation for input  $i$  is  $E(c_i)(1 + \pi)$ .  $E(c_i)(1 + \pi)$  is the amount which the seller will demand given the probability of an increase in the price of input  $i$ . And  $E(C)$  is the amount which the seller will demand to produce the good given the probability of price increases across all inputs.

Take now just input  $i$ . Buyer will pay seller  $E(c_i)(1 + \pi)$  if  $E(c_i)$  for seller is less than  $E(c_i)$  for buyer (i.e.,  $E_s(c_i) < E_b(c_i)$ ).<sup>66</sup> Because  $E(c_i) = (1 - p)c_i + [p(c + l)_i + r]$ , buyer will do so if  $(1 - p)c_i + [p(c + l)_i + r]$  for seller is less than that for buyer. That is,  $E_s(c_i) < E_b(c_i)$  obtains just when the seller's expected risk-bearing cost is less than the buyer's expected risk-bearing cost. The values of  $p, c$  and  $l$  are taken to be stochastically independent of the seller and the buyers' behavior.<sup>67</sup> As price-takers in a competitive input market, both cannot affect the values of  $p, c$ , and  $l$ . Thus, those values remain constant as between the seller and the buyer. The value of  $r$ , the resources expended to determine  $p, c$ , and  $l$ , may vary between the two parties. Hence  $E_s(c_i)(1 + \pi) < E_b(c_i)(1 + \pi)$  when  $r$  takes values such that  $r_s < r_b$ . When  $E_s(c_i)(1 + \pi) < E_b(c_i)(1 + \pi)$ , the buyer will pay the seller  $E(c_i)(1 + \pi)$  to bear the risk described by  $p$ . In such a case, the seller's expectations concerning input  $i$ 's price increases are already compensated.

65. Both the seller and the buyer are assumed to be risk-neutral, so  $U(c) = E(c) = c$ .

66. Cf. Priest, *supra* note 64, at 1313 ("A manufacturer . . . offers market insurance for those losses or items of service for which market insurance is less costly than insurance or allocative investments by the consumer himself.").

67. See generally Priest, *supra* note 64.

The same also is true for all other inputs 1, 2, . . . , n. Hence, in the limiting case, the seller's total production cost, adjusted for risk across all inputs, is summarized by  $E(C) = E(c_1)(1 + \pi) + E(c_2)(1 + \pi) + \dots + E(c_n)(1 + \pi)$ . As represented by the  $E(c)(1 + \pi)$  terms, the seller is compensated for any expectations which concern input prices.

Given the normative principle contained in condition (3)", courts are to allocate losses due to supervening events on the basis of desert.<sup>68</sup> Courts are not to allocate loss in a manner such that social cost or the contracting parties' joint costs are minimized. Cost minimization is only contingently related to the compensation-expectation principle and, therefore, contingently related to desert. Even when the social costs and the parties' joint costs coincide, the compensation-expectation principle justifies the allocation of loss. Cost minimization, however, does not provide the justification. It is, at best, evidence that a party has been compensated ex ante to bear a risk of loss. Courts instead are to identify a feature of the seller and the buyer by which loss justifiably can be imposed. That feature is captured by the compensation-expectation principle:<sup>69</sup> A party cannot justifiably object to an event's occurrence if that occurrence is expected with a probability p, and the party is compensated for the event's occurrence ex ante. Applied to the distribution of loss, the principle reads: A party cannot justifiably object to the imposition of a loss (cost) if that loss is expected with a probability p, and if the party is compensated for the risk of the loss ex ante. When the compensation-expectation principle is satisfied, the party deserves to bear the compensated-for loss. Conversely, imposition of any greater or lesser loss is undeserved. Courts using the compensation-expectation principle are to allocate loss according to desert.<sup>70</sup> To do so requires a determination of what was foreseeable to the parties at the time the contract was

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68. Schwartz calls this directive, based on the consent principle, the "desert case." Schwartz, *supra* note 13, at 11. The directive in the text, based on the compensation-expectation principle, appeals to a different justification.

69. As construed, the compensation-expectation principle is the basis for claiming that a party does or does not deserve to bear a particular loss. Cf., e.g., J. FEINBERG, *DOING AND DESERVING* 58-61 (1970); G. SHER, *DESERT* 7-9 (1987) (all stating the condition that desert claims be justified by reference to some characteristic or action of the party who is the subject of the claims); Kleinig, *The Concept of Desert*, 8 *AM. PHIL. Q.* 71 (1971). Cost minimization is an irrelevant basis according to the compensation-expectation principle. The argument in the text therefore avoids the criticism that calling a proposal incorporating cost minimization a "desert case" is both "unnecessary and misleading." Gillette, *supra* note 20, at 578.

70. Strictly, condition (3)", of which the compensation-expectation principle is a part, is to be used. Because consideration of the other conditions of condition (3)" is unnecessary in preponderate commercial contexts, the use of the compensation-principle alone is warranted. See *supra* notes 61-62 and accompanying text.

entered into. This is required even if it is assumed, as courts do,<sup>71</sup> that what was foreseeable was impounded in the contract price via a probability function.

To illustrate: Suppose seller's input cost is \$.80 at the time of contracting. Suppose also that seller and buyer expect post-contract input prices to vary +-.\$.10 and to be fully reflected in the market price of the output. Seller will charge a premium to bear the risk of the price increase. Assume that the contract price is \$1.00, which includes seller's normal profit and the risk premium. Seller has been compensated ex ante to bear a risk of a ten percent price increase or decrease. Finally, suppose that if seller has a foreseeable input price increase of +-.\$.50, she would have agreed to a contract price of \$1.50. The post-contract price in fact rises to \$1.50. The seller's deserved loss is \$.10 ( $-.10 = \$1.00 - \$1.10$ ), her compensated-for expectation. Ten cents (\$.10) is the amount of risk which she was paid to bear. The seller's undeserved loss is \$.40 ( $-.40 = \$1.10 - \$1.50$ ), the uncompensated-for, unforeseeable risk borne. Under the compensation-expectation principle above, the assignment of any part of the \$.40 loss to seller is undeserved. It should not be imposed on seller.

The argument here should not be misunderstood. It is not that buyer deserves to bear only the \$.40 loss and no more. After all, the buyer was not compensated ex ante to bear any price increase over +-.\$.10 either. Based upon the compensation-expectation principle, the buyer could justifiably complain about having the \$.40 loss imposed on her. The asserted argument is that the compensation-expectation principle, in conjunction with section 2-615, justifies the imposition of the loss because the compensation-expectation only applies to sellers. This result occurs because section 2-615 expressly excuses the seller's performance. It does so, given its judicial gloss,<sup>72</sup> by appeal to unforeseeable supervening events. Both the statute and the case law treat the *seller's* foresight as an important factor.<sup>73</sup> Further, comment 6 to section 2-615 allows adjustments to be made when the issue cannot satisfactorily be framed in terms of "excuse" or "no excuse."<sup>74</sup> It allows distribution of loss between the seller and the buyer. (Comment 6 applies to the above illustration.)

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71. See *supra* notes 39-43 and accompanying text for the standard analysis. See also *Florida Power & Light Co. v. Westinghouse Elec. Corp.*, 826 F.2d 239, 270-71 (4th Cir. 1987) (the strongest evidence that the parties expected spent nuclear fuel to be reprocessed was the contract price); *In re Westinghouse Elec. Corp. Uranium Contracts Litig.*, 517 F. Supp. 440, 444 (E.D. Va. 1981) (contract price for per kilowatt hour reflected the parties' anticipation of the reprocessing of spent nuclear fuel).

72. See *supra* text accompanying notes 10-11.

73. See, e.g., *Cook v. Deltona Corp.*, 753 F.2d 1552 (11th Cir. 1985).

74. U.C.C. § 2-615 comment 6 (1987).

Section 2-615 and its case law provide a basis for limiting the compensation-expectation principle to sellers.<sup>75</sup> Comment 6 provides a basis for distributing loss between the buyer and the seller. The former basis justifies imposing part of the loss on seller. The latter basis, in conjunction with the compensation-expectation principle, justifies imposition of part of the loss on buyer.

The operative notion of desert also should be noted. Desert sometimes is distinguished from entitlement.<sup>76</sup> Entitlements are claims said to require the existence of a set of legal or institutional rules.<sup>77</sup> Desert is taken to bear no necessary connection to such rules. The distinction is not adopted here. Desert claims may or may not be distinct from claims to entitlements.<sup>78</sup> Because only the notion of desert is doing any justificatory work above, no commitment to a thesis of conceptual difference need be made. Further, the operative notion of desert is non-polar<sup>79</sup> with respect to loss. That is, it does not follow from the fact that the seller does not deserve to bear a given loss that the buyer deserves to bear that loss. Perhaps *no* party deserves to bear it. Desert, in conjunction with a statutorily and judicially applied directive, justifies the imposition

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75. The compensation-expectation principle by itself is neutral as between the seller and the buyer. Hence, U.C.C. § 2-615 and case law apart, the *buyer's* performance also could be excused by its application. *Cf.* Northern Ind. Pub. Serv. Co. v. Carbon County Coal Co., 799 F.2d 265, 274-75 (7th Cir. 1986) (buyer-public utility sought excuse from performance of a fixed-price contract under impracticability doctrine when electricity costs declined). Suppose, again, that the contract price is \$1.00 and that the seller bears a risk of a +-\$0.10 variance in price. The market price *declines* to \$0.50. A loss of \$0.50, represented by the market-contract differential, is to be allocated. Unsupplemented, the compensation-expectation principle justifies imposing a deserved loss of \$0.40 on the buyer ( $-\$0.40 = \$0.50 - \$0.90$ ) and \$0.10 on seller ( $-\$0.10 = \$0.90 - \$1.00$ ). The buyer's risk-adjusted deserved loss is \$0.40, the size of the risk-adjusted market-contract differential. Section 2-615 and case law preclude the buyer from relying on the compensation-expectation principle. *Cf. id.* at 276-77 (section 2-615 and Indiana's official comments to § 2-615 appear to make § 2-615 applicable only to sellers); Swift Textiles Inc. v. Lawson, 135 Ga. App. 799, 804-06, 219 S.E.2d 167, 170-71 (1975) (citing commentary limiting the availability of § 2-615 to sellers). Hence, the buyer would have to bear the entire \$0.50 loss represented by the unadjusted market-contract differential. Section 2-615 and case law, not the compensation-expectation principle itself, concern only the seller's loss. For an analogous limitation at the constitutional level, see Kaplow, *An Economic Analysis of Legal Transitions*, 99 HARV. L. REV. 509, 554-55 (1986) (the takings clause of the Constitution is limited to a requirement that losers be compensated, there is no requirement that the gainers compensate losers or incur a pro rata tax on those gains).

76. See J. FEINBERG, *supra* note 69, at 57; W. SADURSKI, *GIVING DESERT ITS DUE* 118-20 (1985); J. Kleinig, *supra* note 69.

77. See *supra* note 76.

78. Arguments for the distinction rely on appeal to the ordinary use of words. See *supra* note 76. Even advocates of the distinction sometimes elide desert and entitlement claims. See, e.g., J. FEINBERG, *supra* note 69, at 59, 62.

79. I borrow the term from J. FEINBERG, *supra* note 69, at 62.



of loss on a party. Seller does not deserve to bear a particular loss. Buyer may not deserve to bear the loss either. Nonetheless, the loss has to be distributed as between seller and buyer.<sup>80</sup> Given section 2-615, its comments and pertinent case law, and the fact that the seller does not deserve to bear the loss, the loss justifiably is imposed on buyer.

#### V. FORESEEABILITY: THE DESCRIPTION PROBLEM

There is a problem here. It concerns the use of the notion of foreseeability. The problem is that the foreseeability of a risk depends on how that risk is described. "Foreseeability contexts," to use the jargon, are intensional. Roughly, a sentential context is intensional if there is some singular term, coextensive predicate, or truth-preserving sentence such that its replacement in that context alters the truth value of the sentence.

For example, let  $C(x)$  be a sentential context introduced by "C." Let  $s$  be a particular sentence with a corresponding truth-value. Then  $C(x)$  is an intensional context if  $C(s)$ 's truth-value varies with truth-preserving replacements of  $s$  or constituents of  $s$ . Foreseeability concerns that which an information set implies or makes probable about future events or contingencies. An informational set consists of a set of propositions or proposition-like items. Whether an event is foreseeable relative to that set depends on the propositions available given the available descriptions. It is only relative to those descriptions that an event is implied or made probable.

Suppose  $x$  is the event of being exposed to uranium. Consider the following sentences:

1.  $x$  is harmful to persons.
2. Exposure to uranium is harmful to persons.
3. Unprotected contact with this ore is harmful to persons.

All three sentences are true by virtue of the same event (exposure to uranium). Each remains true when "exposure to uranium," " $x$ ," and "contact with this ore" are substituted for one another in the respective sentences. However, the truth values of the following sentences may vary:

It is foreseeable that  $x$  is harmful to persons.

It is foreseeable that exposure to uranium is harmful to persons.

It is foreseeable that unprotected contact with this ore is harmful to persons.

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80. For discussion of the justification of the requirement that compensation for loss occur between parties to a transaction, see Walt, *Causation and Victim-Particularized Compensation* (unpublished manuscript on file with author).

The problem is to select among available descriptions of the same event in a nonarbitrary way such that the event is foreseeable under a description. Call this the description problem.

The description problem has an empirical instantiation. It is present in Tversky and Kahneman's experimental results on the framing effects of decision problems.<sup>81</sup> A decision frame is the conception under which a decision maker represents acts, outcomes, and conditional probabilities. Tversky and Kahneman show that framing effects can induce different decision behavior in otherwise identical choice problems.<sup>82</sup> With respect to the framing of outcomes, a significant majority of subjects select option A over B and option C over D in the following problem:

There are 600 deaths expected from a disease.

A: If program A is adopted, 200 will be saved.

B: If program B is adopted, there is a .33 probability that 600 will be saved, and a .66 probability that no one will be saved.

C: If program C is adopted, 400 people will die.

D: If program D is adopted, there is a .33 probability that no one will die, and a .66 probability that 600 people will die.

Options A and C and B and D, respectively, present different descriptions (frames) of statistically equivalent alternatives. Tversky and Kahneman note that subjects are risk-averse when outcomes are described as gains and are risk-seekers when outcomes are described as losses.<sup>83</sup> Experimentally induced demand for insurance is also subject to the same framing effect.<sup>84</sup> The same phenomenon has been found among negotiators in bargaining situations.<sup>85</sup>

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81. See, e.g., Tversky, *A Critique of Expected Utility Theory: Descriptive and Normative Considerations*, 9 ERKENNTNIS 163, 166-68 (1975) [hereinafter *Critique*]; Tversky & Kahneman, *Can Normative and Descriptive Analysis be Reconciled?*, Working Paper RR-4, Center for Philosophy and Public Policy, March 1987 [hereinafter *Normative and Descriptive Analysis*]; Tversky & Kahneman, *Rational Choice and the Framing of Decisions*, 59 J. Bus. 251 (1986) [hereinafter *Rational Choice*]; Tversky & Kahneman, *The Framing of Decisions and the Psychology of Choice*, 211 Sci. 453 (1981) [hereinafter *Framing of Decisions*]. See also Bierman, *The Allais Paradox: A Framing Perspective*, 34 BEH. SCI. 46 (1989).

82. See *Normative and Descriptive Analysis*, *supra* note 81; *Rational Choice*, *supra* note 81; *Framing of Decisions*, *supra* note 81.

83. See *Critique*, *supra* note 81; *Framing of Decisions*, *supra* note 81.

84. Hershey, Kunreuther & Schoemaker, *Sources of Bias in Assessment Procedures for Utility Functions*, 28 MGMT. SCI. 936 (1982); Hershey & Schoemaker, *Risk Taking and Problem Context in the Domain of Losses: An Expected Utility Analysis*, 47 J. RISK

Framing affects probability assignments as well. It is present in what Tversky and Kahneman term a pseudo-certainty effect: The measure of certainty assigned to an outcome when it in fact is dependent on a contingency.<sup>86</sup> Pseudo-certainty can be induced by a sequential formulation of decision problems. Here is an example:

*Problem 1:* The following is a two-stage game. In the first stage, there is a .75 chance to end the game without winning anything, and a .25 chance to move into the second stage. If you reach the second stage you have a choice between:

A: A sure win of \$30.

B: An .80 chance to win \$45.

Which of the above do you prefer?

*Problem 2:* Which of the following do you prefer?

C: A .25 chance to win \$30.

D: A .20 chance to win \$45.

The majority of subjects select A over B in Problem 1 and D over C in Problem 2, even though the probabilities in options A and C are identical ( $A: .25 = 1.0 \times .25$ ), as are the probabilities in options B and D ( $D: .20 = .25 \times .80$ ). Tversky and Kahneman note that these choices violate a principle of invariance or extensionality: Preferences between options should be independent of their description.<sup>87</sup> They also note that the principle is a necessary condition for a normatively adequate theory of choice.<sup>88</sup>

The description problem is not peculiar to the compensation-expectation principle outlined in Section IV. It applies to any normative

INS. 111 (1980); Schoemaker & Kunreuther, *An Experimental Study of Insurance Decisions*, 46 J. RISK INS. 603 (1979).

85. Bazerman, *Negotiator Judgment*, 27 AM. BEHAV. SCI. 211, 213-14 (1983); Bazerman & Carroll, *Negotiator Cognition*, 7 RES. ORGANIZATIONAL BEHAV. 247 (1986). Other researchers have shown the presence of framing effects among physicians with respect to choices among surgical procedures. McNeil, Pauker, Sox & Tversky, *On the Elicitation of Preferences for Alternative Therapies*, 306 NEW ENG. J. MED. 1259 (1982). For a review of some of the empirical literature on decision theory, which warns against uncritical acceptance of the findings in designing legal rules, see Scott, *Error and Rationality in Individual Decision Making: An Essay on the Relationship Between Cognitive Illusions and the Management of Choices*, 59 S. CAL. L. REV. 329 (1986).

Experimental evidence suggests that people's choice behavior is largely independent of the order in which frames are presented and that frame presentation is not a good predictor of choice behavior. Fischhoff, *Predicting Frames*, 11 J. EXP. PSY. 103 (1983).

86. *Framing of Decisions*, *supra* note 81, at 453.

87. *Normative and Descriptive Analysis*, *supra* note 81, at 2, 4; *cf.* Arrow, *Risk Perception in Psychology and Economics*, 20 ECON. INQ. 9 (1982).

88. *Normative and Descriptive Analysis*, *supra* note 81.

principle of loss allocation employing a notion of foreseeability, directly or indirectly. In particular, it applies to Posner and Rosenfield's injunction to discharge performance only when the nonperforming party is the superior risk bearer.<sup>89</sup> The injunction initially requires asking which party assesses the probability that a risk will materialize. This is equivalent to asking which party foresees the occurrence of an event.

In this context, a probability is best understood as a measure of a party's uncertainty about the truth or falsity of a proposition about an event. However, a proposition about an event is an expression of that event under particular descriptions. Hence, an individual's uncertainty can vary with the propositions under which the same event is described. Therefore, if the foreseeability of an outcome depends on the available descriptions, so too does the assessment of the magnitude of risk. Both what is foreseeable and what is probable varies with those descriptions.

Notice that the description-dependence of foreseeability is not confined to a class of decision makers. In particular, it is not confined to unsophisticated individuals. Granted, Tversky's and Kahneman's experimental results concern lay persons in artificial contexts. They neither concern commercially sophisticated individuals or corporations,<sup>90</sup> nor involve long-term commercial contracts.<sup>91</sup> However, some experimental results indicate the presence of framing effects among commercially sophisticated individuals.<sup>92</sup>

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89. Northern Ind. Pub. Serv. Co. v. Carbon County Coal Co., 799 F.2d 265, 278 (7th Cir. 1986) (Posner, J.); Posner & Rosenfield, *Impossibility and Related Doctrines in Contract Law: An Economic Analysis*, 6 J. LEGAL STUD. 83, 90 (1977); cf. Speidel, *Excusable Nonperformance in Sales Contracts: Some Thoughts About Risk Management*, 32 S.C.L. REV. 241, 273 (1980).

90. See Bazerman & Carroll, *supra* note 85 (used negotiators); Hershey, Kunreuther & Shoemaker, *supra* note 84 (undergraduates and M.B.A. students with below average quantitative backgrounds). Cf. Hershey & Shoemaker, *supra* note 84 (subjects were M.B.A. students with below average quantitative background); Kaplow, *supra* note 75, at 549, 561 n.146 ("as a rough approximation" institutional investors and corporations can be expected to make accurate probability assessments); McNeil, Pauker, Sox & Tversky, *supra* note 85 (used radiologists); Schoemaker & Kunreuther, *supra* note 84 (experimental subjects were undergraduates and individual clients of an insurance agency); *Framing of Decisions*, *supra* note 81 (experimental subjects were undergraduates). Arguably, both professions could be deemed sophisticated decision makers for purposes of the decision problems presented to each. The argument in this paragraph of the text does not depend on making the claim.

91. Cf. Gillette, *supra* note 20, at 549 ("There is reason to believe, however, that cognitive dissonance does not pose a serious problem in the context of long-term commercial contracts.").

92. See Schurr, *Effects of Gain and Loss Decision Frames on Risky Purchase Negotiations*, 72 J. APP. PSY. 351, 357 (1987) (risk-taking behavior among both M.B.A. students and professional buyers affected by decision frames, where gain and loss frames

Empirical evidence aside, description-dependence is present across classes of decision makers. The reason has already been noted: foreseeability of an event is relative to a set of propositions, under the descriptions available. Commercially sophisticated individuals or corporations, like lay persons, are presented with a set of propositions. Of course, different sets may be presented. The description problem is the problem of selecting among elements of that set in a nonarbitrary way such that an event is foreseeable. It is a problem that is present at the negotiation stage of a contract, whether short- or long-term.

Commercially sophisticated individuals or corporations may render the description problem *unimportant*. This occurs if both decision makers are not subject to framing and pseudo-certainty effects of the type identified by Tversky and Kahneman.<sup>93</sup> The decision maker's probability and utility assignments would remain invariant across extensionally equivalent descriptions. Application of the compensation-expectation principle

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are net profit and expense, respectively); cf. Bazerman, *The Relevance of Kahneman and Tversky's Concept of Framing to Organizational Behavior*, 10 J. MGMT. 333, 338 (1984) ("combination of information format presented and the individual's framing tendencies will affect risk attitudes and subsequent escalation behavior of managers, politicians, and academicians"); Slovic, Fischhoff & Lichtenstein, *Regulation of Risk: A Psychological Perspective*, in REGULATORY POLICY AND THE SOCIAL SCIENCES 241 (R. Noll ed. 1985) (experts not immune to cognitive error).

93. No empirical studies are available concerning the presence of framing effects among sophisticated decision makers. However, existing experimental results are consistent with their presence among experienced managers and business executives. Researchers have found that 71% of the managers studied were risk-seeking for below-target levels of wealth. Laughhunn, Payne & Crum, *Managerial Risk Preference for Below-Target Returns*, 26 MGMT. SCI. 1238, 1243, 1245-46 (1980). Approximately 45% were risk-averting when a prospect of a ruinous below-target level loss was presented in a gamble. *Id.* at 1243, 1245-46. Choice behavior did not significantly vary as between personal and business decisions. *Id.* at 1243, 1245-46. Experiments varying target levels of managers while maintaining the set of possible outcomes replicated Laughhunn, Payne and Crum's. Payne, Laughhunn & Crum, *Further Test of Aspiration Level Effects in Risky Choice Behavior*, 27 MGMT. SCI. 953 (1981). MacCrimmon and Wehrung found that over 70% of the business executives studied were risk-averse for business decisions involving potentially large losses (one-half of their assigned capital budget); and that approximately 60% of the executives were risk-seeking for decisions involving only gains. The result held for both personal and business decisions. K. MACCRIMMON & D. WEHRUNG, TAKING RISKS: THE MANAGEMENT OF UNCERTAINTY 111-22 (1986).

These results suggest that managers and business executives' utility functions are not uniformly concave across all wealth or target levels. The lack of uniform concavity may be due, at least in part, to framing effects. (Interestingly, MacCrimmon and Wehrung found that the executives studied were more risk-seeking for gambles the authors describe as threats than for gambles described as opportunities. *Id.* at 115. The authors label a gamble with a .5 probability of loss a "threat." A gamble with a .9 probability of gain is labeled an "opportunity." Altered choice behavior was given mean-equivalent, differently labeled gambles not subject to the test.)

outlined in Section IV then would be straightforward. The description problem, however, would still *exist*. Alternative available descriptions of the same prospective event presents a possibility of choice among them.

It is tempting to conclude that the description problem has no solution. This, I think, is correct. It is also tempting to draw this distinct and stronger conclusion: That the description problem in *every application* has no solution and that, therefore, a choice among possible descriptions is arbitrary. Such a conclusion should be resisted for two reasons. First, the problem is not one of selecting among descriptions available to the contracting parties. That is, it is not an agent-specific problem. Rather, the problem is one of selecting among descriptions available at any particular time or, more restrictedly, available to the participants in a given market at a particular time. Foreseeability, not being foreseen by a party, is the relevant standard. Second, the description problem is one of selecting among available alternative descriptions such that an event is foreseeable under at least one of them. It is not a problem of selecting among descriptions *simpliciter*.

These two points can be applied as follows: The relevant set of descriptions is, most restrictedly, the set consisting of descriptions concerning a future event available to participants in a particular market. The restriction is reasonable given the sophistication of contracting parties in typical commercial settings. Only a subset of descriptions is also relevant to the foreseeability of an event. Roughly, this is the subset under which the event is explainable or predictable at a particular time. ("Roughly" because a more precise criterion would allow nonexplanatory or nonpredictive descriptions that are nomologically or probabilistically related to explaining or predicting descriptions.) "That x is an atomic particle" may be a nonexplanatory or nonpredictive description. "That x is uranium" may be a description, at a particular time, from which harm to humans can be explained or predicted.

An event is foreseeable if it is explainable or predictable under a description available at a particular time. Hence, an event is foreseeable at a particular time if, under some description available to market participants, it can be predicted or explained under that description. To be sure, there may be several alternative explaining or predicting descriptions available at any given time. However, this neither shows that the event was not foreseeable at that time under each of those descriptions, nor that the proposed selection is arbitrary. In fact, the selection is nonarbitrary. If a contracting party's expectations of a price increase are to be determined, then only the available descriptions under which the price increase is explainable or predictable are relevant. Hence, as applied to contracting parties' expectations, the above proposal can count as a solution to the description problem.

The compensation-expectation principle places a further constraint on the set of available descriptions: only those predicting or explaining

descriptions under which an event is foreseeable and for which compensation is provided are admissible. On the above proposal, only available explaining or predicting descriptions are considered. An event is foreseeable relative only to those descriptions. On the compensation-expectation principle, only the expectations for which a party has been compensated *ex ante* are to be considered. The set of compensated-for expectations can be smaller than the set of expectations that have explaining or predicting descriptions. The reason is straightforward: not all expectations are compensated *ex ante*. Only the intersection of the two sets is to be considered. In other words, only those expectations which have corresponding explaining or predicting descriptions and for which compensation is provided are admissible. Just those expectations satisfy the compensation-expectation principle. "X will break" is perhaps foreseeable under the description "X is a chair," in tandem with other information, but compensation *ex ante* might not be provided for this expectation. Presumably this is typically the case because all events can be (at least) predictable under *some* description, however general. The compensation-expectation principle requires something more: *ex ante* compensation.

#### VI. THE PROPOSED PRINCIPLE OF LOSS DISTRIBUTION APPLIED

Section 2-615 is to be applied in conjunction with the compensation-expectation principle as follows. Satisfaction of the statutorily specified conditions of section 2-615 are first determined. This requires determination of the cause (causes) of an input price increase. Determination of whether risk of its occurrence was allocated by the buyer and the seller is also required. And the foreseeability of the price increase must be established. The compensation-expectation principle is applied next. Its application requires representing the foreseeability (expectation) of the input price increase by a probability density function. Additionally, a determination of the seller's cost is required if the input price rise falls within its range.

The seller's compensated-for expectation is the product of the mean of the probability density function times the seller's cost within its range,<sup>94</sup> as reflected in the contract price. This is the seller's risk premium. By definition, it satisfies the compensation-expectation principle. Let  $p$  be the proportionate variation in the contract price associated with the seller's risk premium. That is,  $p = (\text{riskied variation in contract price}$

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94. This is true only if the reconstructed probability density function describes a normal distribution. The assumption is justified by the prevalence of its use, by its sampling properties, and by the possibility that a court could adopt it as a presumption in applying the compensation-expectation principle absent contrary evidence. For the latter part of the justification, compare *infra* text following note 111.

- contract price)/contract price. Graphically, it corresponds to the distance of the end point of the probability distribution from the distribution's mean. Then, if the seller breaches, the buyer's damages are calculated as:

$$\text{Damages} = (p \times \text{contract price}) + (\text{incidental expenses} + \text{consequential damages})^{95}$$

These are the damages the seller deserves to bear.

An example may be useful. The following is loosely based on the facts presented to the court in *Louisiana Power & Light Co. v. Allegheny Ludlum Industries, Inc.*<sup>96</sup> Seller is a steel concern, and buyer is a public utility operating several nuclear power plants. The parties execute a contract according to which seller agrees to supply condenser tubing needed to operate buyer's nuclear reactors. The contract price is \$1,100,000. Condenser tubing production requires three important components: electrolytic nickel, low carbon ferrochrome, and labor. Prior to the stipulated delivery date, the input prices of the three components increase. Seller's total production cost increases to about thirty-nine percent over the contract price. Seller refuses to deliver the tubing at the contract price, and the buyer purchases the item from another supplier. The cover price is \$1,750,000. No incidental expenses or consequential damages are sustained by buyer. The buyer seeks damages of \$650,000, the sum calculated under section 2-712(2) of the Uniform Commercial Code.

What are the damages that the seller deserves to bear? That is, what portion of the \$650,000 loss on the contract does the seller deserve to bear? In order to allocate the deserved loss, the court must apply the compensation-expectation principle. Doing so requires a determination of the seller's risk premium. Suppose the court finds that the foreseeable range of aggregate input price variation for electrolytic nickel, low carbon ferrochrome, and labor is twenty percent. Suppose too that there exists a positive (proportional) relation between these foreseeable input cost increases and the total production cost of the condenser tubing. Finally, suppose that it is found that seller's price for bearing the risk of a twenty percent variation in aggregate input prices is ten percent of the contract price. Because the contract price is \$1,100,000, seller's production cost includes a \$100,000 charge to bear the risk of that variation. Seller therefore is compensated to incur a risk of a twenty percent increase (decrease) in the three mentioned inputs. Also, because there is an assumed positive proportional relation between input price increases and total production cost, seller is compensated to bear a risk of a variation

95. The Code allows recovery of incidental expenses and consequential damages under § 2-715(1)-(2). The damage measure above preserves this allowance.

96. 517 F. Supp. 1319 (E.D. La. 1981).



in production costs between \$880,000 and \$1,320,000 ( $\$1,100,000 \times \pm .20 = \$880,000, \$1,320,000$ ). The aggregate input price increase of electrolytic nickel, low carbon ferrochrome, and labor is about thirty-nine percent. Hence, by assumption,<sup>97</sup> the production cost of the condenser tubing also has increased by about thirty-nine percent, to almost \$1,530,000 ( $\$1,100,000 \times 1.39 \approx \$1,530,000$ ). Buyer's cost of cover was \$1,750,000, of which seller was compensated ex ante to bear the risk of production costs to \$1,320,000. Because the contract price was \$1,100,000, seller's compensated-for risk of loss therefore is \$220,000 ( $\$1,320,000 - \$1,100,000 = \$220,000$ ). Seller cannot reasonably complain about bearing losses up to that amount. No incidental expenses or consequential damages were sustained by buyer. Hence, seller deserves to bear a loss of \$220,000 on the contract. The same amount is given by the general measure of buyer's recoverable damages presented above:

$$\text{Damages} = (.20 \times \$1,100,000) + 0 = \$220,000$$

because the value of  $p$  is .20 ( $(\$1,320,000 - \$1,100,000) / \$1,100,000 = .20$ ). Buyer justifiably bears a loss of \$430,000, the remainder of the loss on the contract ( $\$650,000 - \$220,000 = \$430,000$ ).

The buyer's damages under section 2-712(2) of the Code are calculated as:

$$\text{Damages} = (\text{cover price} - \text{contract price}) + (\text{incidental expenses} + \text{consequential damages})$$

Buyer's recoverable damages are \$650,000 under this familiar measure ( $(\$1,750,000 - \$1,100,000) + 0 = \$650,000$ ). The Code measure and the measure of deserved loss above give the same damages only when  $p = .59$  ( $(\$1,750,000 - \$1,100,000) / \$1,100,000 = .59$ ). Seller in this case would have been compensated to bear the risk of the entire price increase. The two measures typically need not yield the same amount of damages.<sup>98</sup>

There is an objection to the above application. It concerns the informational component of a court's institutional competence. In particular, it concerns the informational constraints a court faces. The objection is that the above application requires courts to make a number of complex factual findings.<sup>99</sup> Issues of causation and foreseeability ( $p$ )

97. Specifically, the assumption is that no substitution among inputs is possible in the short-run and, as a simplification, that all input prices for condenser tubing increase by about 39%. The assumption, of course, may be violated in a given case. Whether it is violated is an empirical matter to be established by proof.

98. In a case of partial excuse, in which incidental expenses and consequential damages are present, courts obviously have to "make adjustments under the various provisions of this Article [Two]" to the latter two variables of both measures in the text. U.C.C. § 2-615 comment 6 (1987).

99. See A. SCHWARTZ & R. SCOTT, *COMMERCIAL TRANSACTIONS: PRINCIPLES AND*

are examples. Further, a court must disaggregate a contract price to determine a seller's risk premium. It must do so in order to apply the compensation-expectation principle. However, courts are unsuited to make such findings. This is not a matter of deeming the findings to be issues of law and not fact.<sup>100</sup> It is that, regardless of how the issues are denominated, courts are unsuited to make the required findings. Because courts are unsuited, the application exceeds a court's institutional competence. And because the compensation-expectation principle requires application, a court is not competent to implement the principle. The objection concludes that the proposed principle should be rejected.

The objection fails. To see this, notice first the structure of the objection. It moves from an assertion about complexity in informational requirements to a claim about institutional unsuitability, to a conclusion about a principle of loss distribution. Each move is unsound. Consider each move in turn. To be sure, the factual findings required are often complex. Input price increases, for instance, may be the causal product of a number of distinct events. Determining a seller's expectations via a reconstruction of a probability density function also is difficult. It, in part, requires identifying the explanatory or predictive descriptions under which an event is foreseeable at a particular time in the seller's market. However, both types of finding are not, in principle, different from those required in other adjudicatory contexts, nor are they necessarily of greater complexity. Compare the findings required in tort litigation in which fault is being determined. Causal issues here can be no less complex. Here, too, questions of alternative or aggregate causes may be raised. Issues concerning the foreseeability of particular events can also be present. Determining the relevant set of explanatory or predicting descriptions also is required here. That such issues in tort contexts are treated as matters of fact is irrelevant. Deeming them matters of fact identifies the decision-maker who is to decide them. It does not show that the order of complexity in deciding such issues is any different.

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POLICIES 417-18 (1982); Dawson, *Judicial Revision of Frustrated Contracts: The United States*, 64 B.U.L. REV. 1, 17, 37 (1984); Schwartz, *supra* note 13, at 11, 20.

100. Courts have been unclear as to which of § 2-615's conditions are matters of law and which are matters of fact. Compare *Oosten v. Hay Haulers Dairy Employees & Helpers Union*, 45 Cal. 2d 784, 291 P.2d 17 (1955) and *Housing Auth. v. East Tenn. Light & Power Co.*, 183 W. Va. 64, 31 S.E.2d 273 (1944) (both applying common law doctrine of impossibility, treating "basic assumption" as a matter of fact) with *Koppers Co. v. United States*, 405 F.2d 554, 558 (Ct. Cl. 1968) (issue as to whether performance of contractual specifications is commercially impracticable is a question of law) and *Sunflower Elec. Coop. v. Tomlinson Oil Co.*, 7 Kan. App. 2d 131, 139, 638 P.2d 963, 969 (1981) (excuse of performance by the doctrine of impossibility is a determination of law). See also RESTATEMENT (SECOND) OF CONTRACTS § 261 reporter's note (1979) ("basic assumption" is a matter of law).

Of course, deeming the matters ones of fact in tort does allocate the determination to the jury, and juries may decide them on normatively irrelevant grounds — say, by their distributional preferences. The same is true of any issue, however complex, to be resolved by a jury. The possibility is not created by the differential complexity of factual issues in contract. Hence, the first move is unsound.

The second move is also unsound for the same reason. The fact of complexity in findings does not show an institutional unsuitability to determine them. Compare a tort litigation in which fault is being assigned among multiple defendants. Under a pure comparative negligence rule, a jury has to decide causal issues and determine what each defendant could foresee. Each defendant's probability density function is determined in practice, if not in name. Judge and jury are presented with the same evidence. Again, the fact that different issues are distributed between them for decision does not show that judges cannot suitably decide issues reserved for a jury, at least not when suitability concerns factual issues, as it does here. Of course, contract and tort contexts differ. In contracts, the compensation-expectation principle requires disaggregation of the contract to determine a seller's risk premium. However, the fact that the value of a further variable has to be determined does not, by itself, indicate a greater degree of complexity. Nor does it show that courts are comparatively unsuited to make the requisite findings. The objection, at most, shows that both courts and juries are unsuited to determine complex issues of causation and foreseeability.<sup>101</sup> This may be true, but it is not an objection peculiar to the proposals in Sections IV and V.

The third move from institutional unsuitability to a defect in the compensation-expectation principle also fails. Even if the first two moves were sound, it still would not follow that the proposed principle should be rejected. Additional devices can be introduced to nullify a court's assumed fact-determining limitations. One such procedural device is the appointment of a special master.<sup>102</sup> An appointed master can engage in

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101. Cf. Brennan, *Causal Chains and Statistical Links: The Role of Scientific Uncertainty in Hazardous-Substance Litigation*, 73 CORNELL L. REV. 469, 491-501 (1988); Sugarman, *The Need to Reform Personal Injury Law Leaving Scientific Disputes to Scientists*, 248 SCI. 823 (1990) (both urge the unsuitability of judicial fora for resolution of disputes involving complex causal issues).

102. See FED. R. CIV. P. 53(a), (b) (a judge is permitted to appoint a special master empowered to make findings on particular issues). In an arbitral forum, arbitration rules allow the appointment of an expert to make findings on issues to be determined by the arbitration. Cf. Arb. Rules of the U.N. Comm. on Int. Trade Law, Art. 27 (1976) ("The arbitral tribunal may appoint one or more experts to report to it, in writing, on specific issues to be determined by the tribunal."); ICC Rules of Conciliation and Arb., Art. 14 (1988) ("The arbitrator may appoint one or more experts, define their Terms of Reference, receive their reports and/or hear them in person.").

the factual inquiry necessary to apply the compensation-expectation principle. Evidentiary devices also are available. In particular, assignments of burdens of proof in demonstrating satisfaction of the proposed principle can be introduced. Given an assignment of the burden of proof, a court does not have to determine which events were foreseeable. It does not have to determine the seller's risk premium, nor to establish the cause (causes) of an input price increase. The court (or jury) need only determine whether a party has successfully sustained its burden. In fact, courts already impose the burden of proof on a party claiming the excuse of commercial impracticability.<sup>103</sup> The extension of the seller's burden of proof to include the compensation-expectation principle itself is modest. A standard for satisfying the assigned burden of proof could be altered as well. Specifically, the standard could be one of substantial or clear and convincing evidence. The point here is neither to advocate a particular assignment of the burden of proof between seller and buyer, nor to advocate a favored standard for satisfying the assigned burden of proof. The point, instead, is simply that the proposed principle does not stand or fall with a court's assumed informational limitations. This is sufficient to show that the objection fails.

Unexceptional judicial practice demonstrates the effects of assigning the burden of proof. *Heat Exchangers v. Map Construction Corp.*<sup>104</sup> involved a contract for the construction and installation of air conditioners and plumbing. The seller failed to effect timely delivery, and the buyer contracted with another supplier at a higher cost. The court awarded the buyer damages. On appeal, the seller contended that its failure to deliver was excused because delivery would have been commercially impracticable. This contention was based on a set of supervening events, including the unavailability of a supply of component parts. The court rejected the seller's allegation. In doing so it placed the burden of proof on the seller as to the impracticability of timely performance.<sup>105</sup> The court found the seller presented no evidence as to the unavailability of some component parts "beyond the broad generalities" of seller's employee.<sup>106</sup> The *Heat Exchangers* court, by assigning the burden of

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103. See *Opera Co. of Boston, Inc. v. Wolf Trap Found. for Performing Arts*, 817 F.2d 1094, 1102 (4th Cir. 1989); *Alimenta (U.S.A.), Inc. v. Gibbs Nathaniel (Canada) Ltd.*, 802 F.2d 1362, 1364 (11th Cir. 1986); *Louisiana Power & Light Co. v. Allegheny Ludlum Indus., Inc.*, 517 F. Supp. 1319, 1324 (E.D. La. 1981); *Eastern Airlines Inc. v. Gulf Oil Corp.*, 415 F. Supp. 429, 438, 440 (S.D. Fla. 1975); *supra* notes 85-86, 90, 93.

104. 34 Md. App. 679, 368 A.2d 1088 (1977).

105. *Id.* at 688, 368 A.2d at 1093; *cf.* *Jennie-O Foods Inc. v. United States*, 217 Ct. Cl. 314, 329 (1978) (plaintiff, the party making an impracticability claim, has the burden of proof as to the unavailability of alternative supplies).

106. *Heat Exchangers*, 34 Md. App. at 688, 368 A.2d at 1093.

proof to seller, avoided the necessity of determining the available supply of component parts. It therefore avoided making its decision dependent on its informational limitations.

*Iowa Electric Light & Power Co. v. Atlas Corp.*<sup>107</sup> is well known and less prosaic in effect. In this case, an assignment of the burden of proof relieved the court from determining the extent to which input price increases were foreseeable. *Iowa Electric* involved a four-year contract for the supply of uranium concentrate. The contract contained a price escalation clause allowing an increase of 3.75 cents per pound of shipped uranium concentrate per month. The base price in 1975 was "\$7.10 per pound escalating to \$8.45 per pound in 1978."<sup>108</sup> By 1978, the seller's production costs were \$17.80<sup>109</sup> per pound and the market price had gone to about \$43.00 per pound.<sup>110</sup> The seller's loss on the contract in its second year was estimated at approximately \$1.8 million.<sup>111</sup> The buyer sought specific performance of the contract, and the seller counterclaimed for an equitable adjustment of price based on commercial impracticability.

The court rejected the seller's counterclaim. Its reasoning is revealing. Price increases in many of the inputs were conceded to be unforeseeable.<sup>112</sup> The court admitted that "[i]t would be unfair to expect Atlas [seller] to have prophesied the magnitude of the increases complained of . . . ."<sup>113</sup> The seller's counterclaim was rejected because it failed to bear its burden of proof as to how many of the input price increases were unforeseeable.<sup>114</sup> The court implicitly acknowledged that the actual production cost of uranium concentrate fell outside of the seller's probability function for production cost increases. It simply lacked the information needed to construct seller's ex ante probability function. Thus, the effect of the assignment of the burden of proof is significant. Requiring seller to provide the information makes the court's acquisition of the information unnecessary. Either seller supplies the requisite data or the entire extent of production cost increases is treated as foreseeable. In the former instance, the court obtains the information from seller. In the latter instance, acquisition of the information is superfluous: the court simply

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107. 467 F. Supp. 129 (N.D. Iowa 1978).

108. *Id.* at 137.

109. *Id.* at 132.

110. *Id.* at 132, n.5.

111. *Id.* at 131, n.2.

112. *Id.* at 132, 137 & n.10.

113. *Id.* at 135.

114. *Id.* at 132-33, 133 n.6, 135; *cf. In re Ocean Air Tradeways, Inc.*, 480 F.2d 1112, 1117 (9th Cir. 1973) (the party advancing the defense of impossibility of performance must prove that the events alleged to frustrate performance were not reasonably foreseeable).

assumes that the entire input price increase is foreseeable. In both instances, the court itself need not provide the requisite information. Again, as in *Heat Exchangers*, the court avoids making its decision dependent on its own informational limitations.

Consider, finally, a related objection. This objection is not just that courts are subject to informational limitations. It is that informational limitations induce unpredictability in case outcomes, and that induced unpredictability in case outcomes impairs the stability of contracts. The compensation-expectation principle, according to the objection, induces unpredictability. This objection fails, too, because the proposed principle does not, by itself, generate unpredictability in case outcomes. At best, only the principle together with devices for its application would do so. Let  $C$  = the cost to seller of performance satisfying the compensation-expectation principle,  $D$  = the damage schedule a court assigns to the seller if the seller breaches ( $D > 0$ ), and  $p$  = the probability that the seller is found liable for a particular level of damages. Seller will breach if, and only if,  $C > \sum_{i=1}^n p_i D_i$ . The values of  $p$  and  $D$  are not determined by the compensation-expectation principle itself. They are determined by devices such as the assignment of burdens of proof and a court's adoption of particular damage schedules given uncertainty about the buyer's damages. Both devices are independent of the compensation-expectation principle.

Contractual stability is unimpaired if  $C \leq \sum_{i=1}^n p_i D_i$ . Values of  $p$  can be such that both the seller's and buyer's uncertainty about litigation outcomes is reduced. This can occur as a result of assigning burdens of proof.  $D$ 's values can also be set by a court adopting damage schedules when presented with uncertainty concerning the buyer's damages. For instance, a court could adopt the following rule: Buyer's damages ( $D$ ) are equal to the cost of cover when the seller fails to establish the value of  $C$ . If  $p$  is "high enough" and  $D > C$ ,  $C \leq \sum_{i=1}^n p_i D_i$ , then seller will perform. Contractual stability is, therefore, preserved. The point here, as in two paragraphs ago, is not to advocate the use of such devices. It is simply that the compensation-expectation principle induces neither unpredictability nor contractual instability. The proposed principle cannot be rejected on this basis.

## VII. CONCLUSION

Section 2-615 of the Uniform Commercial Code excuses contractual performance under statutorily specified conditions. Difficulty in applying the section is at least partly the result of the absence of a normative principle of loss distribution. The proposal in Sections III through VI provides that normative principle. Ex ante compensation is its basis: A commercially sophisticated party cannot reasonably object to a loss, the

risk of which it has been compensated to bear. This is the compensation-expectation principle argued for in Section IV. Its prescriptive force derives from the absence of any justifiable grounds to object. Given compensation *ex ante*, it is *because* a particular loss cannot reasonably be objected to that the loss can be imposed. The compensation-expectation principle is "internal" to the Code because it is supported by Code provisions, comments, and case law (Section IV). Competing normative principles of loss distribution violate the constraint of "internalness" (Sections II - III).

The proposal in Sections III - VI uses the outlined principle of loss distribution as follows. Contractual loss is to be distributed according to the parties' desert. A contractual loss is deserved when a party cannot justifiably complain about its imposition on that party. And a commercially sophisticated party cannot justifiably object to a loss, the risk of which it was compensated to bear (Section IV). Deserved loss is coextensive with the foreseeable risks of loss for which a party has been compensated. Hence, in applying section 2-615 of the Uniform Commercial Code, courts are to determine the set of foreseeable risks for which a party was compensated. Those risks, by definition, are a party's risk-compensated set of expectations. A party's risk-compensated expectations of an event are the set of compensated expectations such that there is at least one description of the event under which it is explained or predicted (Section V). Courts are to identify those descriptions and reconstruct a party's risk-compensated expectations. Section VI considers and rejects objections based on institutional incapacity, informational complexity, and induced contractual instability.

The proposal has comparative virtues. To see this, begin by distinguishing the following three elements: (1) the conditions under which legal relief is granted; (2) the nature of the relief granted; and (3) the extent of relief. A determination of the first element does not also determine the other two elements. For instance, a court could find seller's performance to be commercially impracticable while adjusting the contract price and ordering specific performance.<sup>115</sup> In such a case, statutorily

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115. See, e.g., *ALCOA v. Essex Group, Inc.*, 499 F. Supp. 53, 57 (W.D. Pa. 1980) (contract terms equitably adjusted upon a finding of commercial impracticability); *G.W.S. Serv. Stations, Inc. v. Amoco Oil Co.*, 75 Misc. 2d 40, 346 N.Y.S.2d 132, 140-43 (N.Y. Sup. Ct. 1973) (seller's delivery of a contractually specified quantity of gas found to be commercially impracticable; court ordered specific performance of a judicially adjusted quantity); *McGinnis v. Clayton*, 312 S.E.2d 765, 779 (W. Va. 1984) (Harshbarger, J., concurring) (a court can equitably adjust contract terms and order specific performance upon a finding of commercial impracticability). *But see* *Iowa Elec. Light & Power Co. v. Atlas Corp.*, 467 F. Supp. 129, 139 (N.D. Iowa 1978) (equitable adjustment is not possible under buyer's specific performance remedy, under § 2-716 of the Uniform Commercial Code).

specified conditions provide the foundation upon which seller's performance is found to be commercially impracticable — this constitutes element (1).<sup>116</sup> Buyer's relief takes the form of an order for specific performance of the adjusted contract, element (2), and the extent of the buyer's relief is determined by the difference between the contract price and the adjusted contract price of the seller's performance, element (3). The court must make separate findings as to each element. Comment 6 of section 2-615 can be construed to recognize this need:

In situations in which neither sense nor justice is served by either answer when the issue is posed in flat terms of "excuse" or "no excuse," adjustment under the various provisions of this Article [Two] is necessary . . . [including] the general policy of this Act to use equitable principles in furtherance of commercial standards and good faith.<sup>117</sup>

A fully specified doctrine of commercial impracticability at least requires that elements (1) and (3) be given precise content. ("At least" because element (2) concerns the type of relief granted and, therefore, forms part of a general account of remedies.) Hence, alternative accounts of commercial impracticability can be compared with respect to elements (1) and (3).

The above proposal has comparative virtues, at least as compared to accepted judicial practice. One such virtue is a well-defined principle for determining when performance becomes commercially impracticable. Compare in this regard *In re Westinghouse Electric Corp. Uranium Contracts Litigation*,<sup>118</sup> to *Louisiana Power*.<sup>119</sup> At issue in *In re Westinghouse* was whether losses of about \$100 million for temporarily storing and ultimately removing spent nuclear fuel rendered the seller's performance impracticable. The district court determined performance to be practicable. It did so by considering the proportion of loss to the value to seller (Westinghouse) of the entire contract.<sup>120</sup> The Court of Appeals for the Fourth Circuit disagreed with the District Court's determination. In a decision in which it partially reversed the District Court's judgment, it employed a different formulation: the cost of the

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116. See *supra* text accompanying notes 4-8.

117. U.C.C. § 2-615 comment 6 (1987).

118. *Florida Power & Light Co. v. Westinghouse Elec. Corp.*, 597 F. Supp. 1456 (E.D. Va. 1984); *In re Westinghouse*, 517 F. Supp. 440 (E.D. Va. 1981).

119. *Louisiana Power & Light Co. v. Alleghany Ludlum Indus., Inc.*, 517 F. Supp. 1319 (E.D. La. 1981).

120. See *Florida Power & Light Co.*, 597 F. Supp. at 1477-78; *In re Westinghouse*, 517 F. Supp. at 453.



contemplated performance to the cost of the alternative performance.<sup>121</sup> The *Louisiana Power* court used still a different proportion. There, a finding that the seller's performance was practicable was made "more apparent" when the proportion of loss to the seller's annual profit on its manufacturing plant was considered.<sup>122</sup> All three courts agree that impracticability is to be determined by a comparison of cost.<sup>123</sup> The disagreement among the courts concerns the favored comparison. No court provides a justification for treating any particular proportion as indicating impracticability. Instead, appeal is made to proportionate cost increases present in other cases.<sup>124</sup> Impracticability as indicated by ranges of proportionate cost increases is not justified. Hence, the measures are ill-defined. The compensation-expectation principle requires that a party can reasonably complain about the imposition of loss in excess of the foreseeable risks the party was paid to bear. It provides a justification for treating particular losses as indicating impracticability. Hence, the principle for determining impracticability is well-defined. It gives content to the Code's oracular comment that impracticability results when "the essential nature of the performance" is altered.<sup>125</sup>

Another comparative virtue is one of unification: the presence of a well-defined principle of loss distribution given that performance is found to be commercially impracticable. The same principle that determines *when* also determines *how much* to excuse, and it does so in both instances by resort to bargain-specific facts. Therefore, the extent of relief granted, element (3), is connected to the conditions under which relief is granted, element (1). The justificatory relation between the two elements is not adventitious.

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121. *Florida Power & Light Co. v. Westinghouse Elec. Corp.*, 826 F.2d 239, 277 (4th Cir. 1987).

122. *Louisiana Power & Light Co.*, 517 F. Supp. at 1324 n.4.

123. See *supra* notes 14, 114.

124. See *Louisiana Power & Light Co.*, 517 F. Supp. at 1325-26 (citing *Transatlantic Fin. Corp. v. United States*, 363 F.2d 312, 315 (D.C. Cir. 1966) and *Iowa Elec. Light & Power Co. v. Atlas Corp.*, 467 F. Supp. 129 (N.D. Iowa 1978), *rev'd on other grounds*, 603 F.2d 1301 (8th Cir. 1979)); cf. *Iowa Elec. Light & Power Co.*, 467 F. Supp. at 140 (citing *American Trading & Prod. Corp. v. Shell Int'l Marine Ltd.*, 453 F.2d 939, 942 (2d Cir. 1972) (citing *Transatlantic Fin. Corp.*, 363 F.2d 312 and English precedents involving proportionate cost increases)).

125. U.C.C. § 2-615 comment 4 (1987) ("Increased cost alone does not excuse performance unless the rise in cost is due to some unforeseen contingency which alters the essential nature of the performance.").

Whether the principle is to be used to determine impracticability of performance is a distinct issue. Its resolution depends on evidentiary matters and the allocation of burdens of proof. See *supra* text accompanying notes 107-112. Both items pertain to the application of the compensation-expectation principle and not to its content.

Consider in this respect *Florida Power & Light v. Westinghouse Electric Corp.*<sup>126</sup> again. There, the district court determined that the seller's performance was practicable based on its favored comparison of costs.<sup>127</sup> It went on to find that part of the seller's loss was the result of an unforeseeable contingency, the government's delay in honoring its commitment either to build a nuclear fuel reprocessing plant or to construct storage sites.<sup>128</sup> In allocating the loss represented by the interim storage costs, the court appealed to "it[s] own sense of fairness."<sup>129</sup> The specific considerations included the benefit which the buyer's ratepayers already received and the seller's tardiness in removing some spent fuel to an off-site location. The court divided the interim storage costs equally.

The point here does not concern the distribution of loss upon which the court decided. Nor does it concern the specific content of the court's implicit principle of loss distribution. Rather, the point concerns the relation between the court's finding and the facts appealed to by the court in distributing loss. It is that the relation remains mysterious without a justificatory connection between a finding of an unforeseeable contingency and partial or full excuse. The question is simply put: what is it about unforeseeable contingencies which justifies distributing loss in a particular way?

The facts the court cites do not justify its distribution between buyer and seller because they are irrelevant to the terms of the bargain. The ratepayers' benefit from the performance of the contract is an element that is extrinsic to the transaction. It is relevant only to the value of performance to the ratepayers. The terms of the contract remain the same even if the ratepayers' benefit from the performance of the contract would be different. An ability to bear a loss (cost) is, by itself, irrelevant to the justification of imposing that loss (cost) in the first place.<sup>130</sup> Similarly, the seller's tardiness in removing some spent fuel to an off-site location is irrelevant. The court has already decided that seller's contractual obligation simply was to dispose of spent fuel, either by storing or reprocessing.<sup>131</sup> Removal of spent fuel to an off-site storage location was not part of the contract.

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126. 597 F. Supp. 1456 (E.D. Va. 1989).

127. *Id.* at 1478.

128. *Id.*

129. *Id.*

130. *Cf. Asphalt Int'l, Inc. v. Enterprise Shipping Corp., S.A.*, 667 F.2d 261, 266 (2d Cir. 1981) ("The doctrine of commercial impracticability focuses on the reasonableness of the expenditure at issue, not upon the ability of a party to pay the commercially unreasonable expense."). Case support aside, the statement in the text is at least true when commercially sophisticated actors are involved, as in *Florida Power & Light Co.*, 597 F. Supp. 1456.

131. *In re Westinghouse*, 517 F. Supp. at 446-47.

The compensation-expectation principle appeals to facts pertinent to the terms of the bargain. In particular, appeal is made to the set of foreseeable risks present to a party at the time the contract was executed and the compensation was received to bear those risks. Hence, the proposed principle is bargain-specific. Contractual loss is distributed by reference to those facts. It is because a party was compensated to bear a set of foreseeable risks *ex ante* that *ex post* imposition loss upon the party is justified. The amount of relief a court grants is justified by the time when relief is granted.

A proviso needs to be noted. It may be that a court would do better not to allocate loss according to the compensation-expectation principle in a particular case. That is, the case may be one in which distributing a loss according to desert is unjustified. The prospect of a seller's or a buyer's consequent bankruptcy or perverse incentive effects may provide such cases. Alternatively, the party may not be a commercially sophisticated actor, in which case the compensation-expectation principle itself may not be satisfied. Either possibility would not show that the above proposal is wrong. Each only shows that the proposal has a restricted scope. There is nothing inconsistent about a court making the following three statements: (1) seller was compensated to bear a risk of a price rise up to \$100 on a contract price of \$20 and, therefore, seller can reasonably complain about bearing a loss in excess of \$100; (2) given a price increase to \$200, seller deserves to bear \$100 of the loss; (3) but seller nonetheless ought to bear the entire \$200 loss. Claims of desert can be overridden by other normative claims. There is nothing unusual here. Moreover, the Uniform Commercial Code allows the result via section 1-103 which, subject to displacement by Code provisions, makes general equitable principles applicable to a transaction. When normative claims other than desert require that the compensation-expectation principle not be employed, further concerns are present. Their presence does not defeat the above proposal.

There is good reason to assume that the compensation-expectation principle will not be overridden via section 1-103. Overriding it requires that application of section 1-103 yield a different result from the compensation-expectation principle. This, in turn, requires that the general equitable principles referred to in section 1-103 apply and, as applied, impose a different distribution of loss. However, the requirements rarely will be satisfied jointly. Identification of operative equitable principles is needed because mere mention of their existence is insufficient.<sup>132</sup> Section

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132. See Hillman, *Construction of the Uniform Commercial Code: UCC Section 1-103 and "Code" Methodology*, 18 B.C. INDUS. & COM. L. REV. 655, 688-89 (criticizing cases invoking operative equitable principles without specifying their content).

1-103 omits even a partial enumeration of the content of such principles.<sup>133</sup> Those principles, properly identified, also must have their source in the existing law of the relevant jurisdiction.<sup>134</sup> Most important, an application of the compensation-expectation principle must yield an inequitable result according to the operative equitable principle identified.

Typical cases of commercial impracticability do not involve misrepresentation, fraud, duress, coercion, mistake, or bankruptcy:<sup>135</sup> each of which is a subject matter of the general principles referred to in section 1-103.<sup>136</sup> Cases of commercial impracticability that involve such features will not satisfy the compensation-expectation principle. Recall that the compensation-expectation principle in Section IV reads:

(3)" If a party expects (foresees) an event to occur with probability *p*; if the party is compensated for that event's occurrence (to her); and if that party has the opportunity to refuse the compensation or bargain for a different level of compensation, either being acceptable alternatives; then if the event occurs, that party cannot justifiably object. . . .

Instances of misrepresentation, fraud, or mistake are instances in which the opportunity to refuse compensation or bargain for a different level is diminished. Hence, that part of condition (3)" is not satisfied. Instances of duress, coercion, or bankruptcy are instances in which the

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133. Section 1-103 simply provides: "Unless displaced by the particular provisions of this Act, the principles of law and equity, including the law merchant and the law relative to capacity to contract, principal and agent, estoppel, fraud, misrepresentation, duress, coercion, mistake, bankruptcy, or other validating or invalidating cause shall supplement its provisions." U.C.C. § 1-103 (1987). *Cf.* Summers, *supra* note 19, at 913-19 (providing illustrations of the equitable principles mentioned in § 1-103).

134. See R. HILLMAN, J. McDONNELL & S. NICKLES, *supra* note 11, 1.04, at 1-5 to 1-9; Hillman, *supra* note 129; 1 N.Y. State Law Revision Comm'n, Study of the Uniform Commercial Code, 1955 Report 167-69 (1955).

135. See cases cited *supra* notes 11-12, 14. Of course, this is not to say that parties seeking excuse will not also allege grounds other than impracticability. Often they do. Allegations of unilateral or mutual mistake sometimes are conjoined with claims of impracticability. See, e.g., ALCOA v. Essex Group, Inc., 499 F. Supp. 53 (W.D. Pa. 1980); McGinnis v. Cayton, 312 S.E.2d 765 (W. Va. 1984); Farnsworth, Brickell & Chawaga, *Relief for Mutual Mistake and Impracticability*, 1 J.L. & Com. 1 (1981); Note, Northern Indiana Public Service Company v. Carbon County Coal Company: *Risk Assumption in Claims of Impossibility, Impracticability and Frustration of Purpose*, 50 OHIO ST. L.J. 163, 176 (1989). Typically, relief based on mistake is denied. See, e.g., Leasco Corp. v. Taussig, 473 F.2d 777 (2d Cir. 1972); Hanover Petroleum Corp. v. Tenneco Inc., 521 So. 2d 1234, 1240 (La. Ct. App. 1988), *cert. denied*, 526 So. 2d 800 (La. 1988); Washington State Hop Producers, Inc. Liquidation Trust v. Goschie Farms, Inc., 51 Wash. App. 484, 754 P.2d 139 (1988), *aff'd*, 112 Wash. 2d 694, 773 P.2d 70 (1989); McGinnis v. Cayton, 312 S.E.2d 765, 769 (W. Va. 1984).

136. See *supra* note 130.

alternatives to refusing compensation or bargaining for a different level arguably are unacceptable. Thus, the relevant part of condition (3)" is not satisfied.<sup>137</sup> In either instance, the compensation-expectation principle is violated. Because it is violated, the principle is inapplicable. It mandates no preferred distribution of loss between the contracting parties. Hence, application of the compensation-expectation principle would not yield inequitable results. Operative equitable principles would have nothing to override.

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137. Section 2-302 is applied independently of both § 2-615 and the compensation-expectation principle. *See supra* text accompanying notes 62-63.

