This article develops the point that the incentive and risk-bearing problems associated with contractual holdup may justify legal intervention in theory, and the article relates this conclusion to legal intervention in practice. Contractual holdup is considered for fresh contracts and for modifications of contracts.

One type of legal intervention is flat voiding of contracts. This policy tends to be advantageous when contracts are socially undesirable and thus should definitely be deterred, notably when events permitting holdup are engineered.

Another type of intervention is price-conditioned voiding – voiding only if the price is excessive. This policy tends to be advantageous when contracts are socially desirable, especially when events that permit holdup are not engineered (bad weather puts a ship in jeopardy). Price-conditioned voiding prevents the use of holdup prices but still allows contracts (to a tow ships in distress) to be made.

Both types of legal intervention in contracts and their modifications are employed by courts to counter problems of pronounced holdup. Also, various price control regulations appear partly to serve the same objective.

1. Introduction

The object of this article is to develop the point that the problems associated with contractual holdup may justify legal intervention in theory and to relate this conclusion to legal intervention in practice, in the form of the voiding of certain contracts and the cabining of price.

The term “contractual holdup” is employed here in a standard way; it refers to situations in which a party to a new or an existing contract accedes to a very

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disadvantageous demand due to the party’s being in a circumstance of substantial need.¹
Stock examples of contractual holdup concern property owners who experience pressing
liquidity problems or who are even physically threatened (almost a literal holdup),
businesses with immediate requirements for specific goods or services, parties to
contracts who face the prospect of breach at critical junctures, individuals whose cars
break down and desire tows, and ships in distress.

The difficulties that contractual holdup engenders are ones of incentives and risk-
bearing and are reviewed in section 2. As is generally appreciated, the possibility of
holdup leads to a range of undesirable incentives: wasteful efforts to engage in holdup
(arranging a threat of violence, using a needlessly expensive construction method with
which others are unfamiliar in order to make a midstream threat of breach); inefficient
precautions to avoid holdup (purchasing a reserve engine for a ship even though rescue
would be likely); dulled investment motives (reducing advertising of a television show
because the show’s profits may be extorted by the cast in renegotiations). Holdup prices
may also represent a significant risk (suppose that a tugboat could obtain an agreement
for half the value of a vessel for towing it to safe harbor).

How the law can alleviate the undesirable consequences of contractual holdup is
addressed in section 3. One approach is for the law simply to void contracts or their
modifications, since that will remove the prospect of profit from holdup. This policy may
be desirable when the events that permit holdup to occur are engineered in some fashion

¹ The word “holdup” is often mentioned by legal commentators on contract, for example, by
Corbin (1963), 1A, p.105, in his treatise on contracts. It may first have been used in the economics
(use of an unjustifiably expensive construction method), for these events would not have been instigated if they would not have resulted in enforceable contracts.

When, however, situations of need are not engineered (bad weather puts a ship in jeopardy, market forces cause construction costs to increase), flat voiding of agreements is undesirable, since in such situations contracts for aid or modifications (to tow a ship, to continue with construction) are often, if not typically, socially beneficial. In these circumstances, the policy of controlling the contract price is preferable, as that policy can reduce the problems of holdup but still allow contracts to be made.

Both types of legal intervention in contracts and their modifications – voiding without regard to price and control of price – are observed in fact, as is described in section 4. Discussed here are certain doctrines of contract law (duress, bad faith, and unconscionability), admiralty law, and various price control regulations (including towing of cars, taxi rates, post-emergency pricing, and the historical just price rule of *laesio enormis*).

The analysis of holdup is related to the economic theory of contracting in section 5, where it is suggested that holdup should be regarded as a general rationale for state intervention in fresh contracts. Also addressed is the contrast between legal intervention in contract modifications as examined here and the economic contracting literature, where it is assumed that courts do not intervene in modifications, and holdup is instead ameliorated by contractually-specified mechanisms governing renegotiation.
The main contribution of this article to the law and economics literature on holdup\(^2\) is that the article distinguishes between contracts that should not be made at any price and contracts that should be made, but only at moderate prices. For the former, flat voiding is desirable to deter contracts altogether. For the latter, voiding is desirable only if price is excessive, in order to constrain price without discouraging contracts.\(^3\)

2. Contractual Holdup and the Problems it Creates

It will be useful to begin by listing a number of examples of holdup.

(a) In *Baker v. Morton*, Baker was induced to sign over his land to another person for free because of threats made by an organization known as the Omaha Claim Club, operating in the then territory of Nebraska.\(^4\) The tactics of the club included taking a landowner who refused to sell his property to the Missouri River and, with a rope tied around his neck, repeatedly dunking him until he complied.

(b) A construction company made a contract to build a factory and used a method which was more expensive than needed for the job and with which other construction companies did not have experience. Half way through the job, the company threatened breach unless the contract price was raised substantially, and the buyer agreed.\(^5\)

(c) On the afternoon of December 31\(^{st}\), a fairly large restaurant in a small town found that its electricity had failed due to a wiring problem. Without electricity, the


\(^3\) However, Craswell (1995), who critiques non-economic theories of holdup and enforcement of contracts, insightfully observes that a price-conditioned voiding policy may lead to the making of contracts at fair rather than high prices.

\(^4\) 79 U.S. 150 (1870).

\(^5\) This is a hypothetical example, as will be some others.
restaurant would be unable to operate that evening, normally its most profitable of the year. The single electrician in town demanded and received payment of $2,000 for the one hour repair job, for which his normal rate would have been $80.

(d) In *Beckwith v. Frisbie*, Beckwith hired Frisbie, a canal boat owner, to transport oats to New York. Frisbie refused to release the oats unless he was paid more than initially agreed. Beckwith complied with Frisbie’s demand in order to be able to sell his oats, at a time when the market price of oats was falling.

(e) In *Magnolia Petroleum Co. v. National Oil Transport Co.*, a towboat came upon a barge in a helpless and endangered position. The towboat master obtained an agreement to be paid $15,000 for a tow of about one day, under weather conditions that were not dangerous, and when normal daily towage rates ranged from $500 to $600.

(f) In *Alaska Packers’ Association v. Delmonico*, the crew of a fishing vessel demanded and obtained a contract modification under which their wages were doubled, from $50 to $100 for the summer. The fishermen had threatened to quit otherwise, and it is said that it would have been impossible for them to be replaced because they were in a remote location in Alaska and the fishing season was short.

(g) James Gandolfini, star of the television series, *The Sopranos*, threatened to stop filming unless his contract with HBO was renegotiated for more than the $400,000

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6 32 Vt. 559 (1859).

7 286 F. 40 (5th Cir. 1923).

8 117 F. 99 (9th Cir. 1902).

9 Although this paragraph summarizes the facts of the case as seen by the court and as regarded by most commentators, a recent article, Threedy (2000), offers another interpretation.
per episode that he had been receiving. HBO agreed to an increase, purportedly bringing Gandolfini’s per episode payment to over $800,000.10

At the outset, I should comment on how it is that holdup occurs, that is, on what gives the threatening party, whom I will often call a “contractor,” bargaining power over the other party, whom I will often call a “victim.”11 This is a relatively straightforward matter in regard to a fresh contract in a case like that of the electrician or of rescue like Magnolia Petroleum. In such cases, there is a great need that cannot readily be met by a party other than the contractor, who can choose not to transact. In a situation like Baker v. Morton, however, the threat is to commit a crime, so how is it that the threat may have credibility? In this case, committing a crime might well not have exposed the Omaha Claim Club to real penalty due to its power in the Nebraska territory,12 and in other cases in which the threat is a crime or a tort, one often finds a reason for believing that law enforcement would not have been likely.13 In cases where modifications of contracts are at issue, a party threatening breach would, if breach were committed, have to pay damages to the victim. Hence, one might ask why, for example, in Alaska Packers or The Sopranos cases, the victim agreed to a change in the contract terms. One answer may


11 This terminology will be employed even though a “victim” might not find himself in a situation of need, or if he does, might not meet with a contractor, or if he does meet with a contractor, might not be held up.

12 The opinion states on p. 150 that “The club made laws and promulgated decrees to suit its purposes, and enforced their observance with revolvers, guns, bayonets, ropes, and other appliances.... The sheriff of the county, ..., mayor of the city, and register and receiver of the land office, all held high positions in the club.”

13 For example, in Barton v. Armstrong, 3 A.L.R. 355 (Privy Council 1973), Armstrong threatened to kill a business associate unless he signed an agreement Armstrong wanted. Armstrong’s statements were veiled, sometimes made anonymously in telephone calls, such that Barton could reasonably believe that Armstrong might think he could get away with murder.
concern inability of the threatening party to pay damages; it is doubtful that the crew of the fishing boat had much in assets,\textsuperscript{14} and one wonders also if Gandolfini possessed holdings nearly sufficient to pay HBO for its losses from a breach, perhaps $100 million.\textsuperscript{15} Other possible explanations are that damages would be undercompensatory and that the parties threatening breach make counterclaims.\textsuperscript{16}

Let me now discuss briefly the types of problem that contractual holdup can create against the background of a simple model:\textsuperscript{17} Victims may find themselves in situations of need, that is, circumstances in which they will suffer a loss unless given aid by a contractor. Various actions of the parties may affect the probability of situations of need, the conditional probability that a victim in a situation of need will come into contact with a contractor, the cost of giving aid, and the loss that the victim would suffer in the absence of aid. The cost of aid is presumed to be less than the loss a victim in a situation of need would suffer, so that a victim and a contractor will have a reason to contract. At most one contractor will be available to furnish aid to a victim – bilateral monopoly is assumed – and bargaining will result in the contractor obtaining a positive fraction of the surplus from a contract. For concreteness, the contractor’s fraction of the surplus is assumed to be substantial, so that I will refer to the contract price as a holdup price. The social objective is the minimization of social costs: the costs of any efforts

\textsuperscript{14}The opinion states on p. 102 that “it is quite probable...that they [the crew] may have been unable to respond in damages.”

\textsuperscript{15}See E-Online, “‘Sopranos’ back to Shady Business,” March 19, 2003, at www.eonline.com/News/Items/0,1,11470,00.html.

\textsuperscript{16}In \textit{The Sopranos} matter, Gandolfini asserted that HBO had violated an element of California labor law; see E-Online, “HBO Puts Hit on Gandolfini,” March 11, 2003, at www.eonline.com/News/Items/0,1,11420,00.html.

\textsuperscript{17}This model concerns fresh contracts, and a formal version of it is set out in a brief appendix; a similar model would apply to contract modification.
made prior to the occurrence of situations of need, the costs of furnishing aid in situations of need, losses sustained in situations of need, together with risk-bearing costs where parties are risk-averse.

One problem with holdup is that it can lead contractors to invest effort to engineer situations of need. Clearly, any such effort is socially undesirable, because it is costly in itself and can only increase subsequent social costs. But the promise of contractor profit from the charging of holdup prices may lead contractors to make efforts to create situations of need. This is exemplified by *Baker v. Morton*, since the Omaha Claim Club invested energy in dragging Baker to the Missouri River to demonstrate the reality of its threat and in other ways devoted resources to its extractive activities. The phenomenon is also illustrated (in an empirically more relevant way) by example (b) of the construction company that used an expensive method only because it would allow the company to hold up the victim, since other construction companies were unfamiliar with the method.

A second problem with holdup is that it can lead victims to expend excessive effort to reduce the likelihood of holdup or its consequences. The degree to which victims will exert effort will depend on their desire to avoid paying the holdup price, for that is the private cost to them of holdup. To the extent that this price exceeds the actual cost of aid, victims will be led to spend too much from a social perspective protecting themselves against holdup. Demonstrating this possibility of wasteful expenditure would be Baker hiring armed guards to thwart the Omaha Claim Club or the barge in *Magnolia Petroleum* outfitting itself with a spare engine.

A third problem with holdup is that it can dilute victims’ incentives to invest in their enterprises. For instance, we might find that Baker would not improve his property
in Nebraska, say by putting up a barn, if the value of the barn would be extracted from him, or that the ship owner in *Alaska Packers* would decide not to install greater storage capacity for fish if the owner felt that that would only accentuate the demands of the crew were it to threaten breach.

A fourth issue relating to holdup is of a different character: contractors’ incentives to search for victims in situations of need, and to make related investments, will be closer to the desirable level the higher the price they obtain. For a tugboat’s incentives to engage in search, or to purchase equipment to lower the cost of towing, to be optimal, the tugboat would need to receive the full surplus from giving aid, not just a fraction of it. Hence, high holdup prices have a socially beneficial aspect rather than a detrimental one.

A fifth consideration, however, is that holdup prices impose a form of risk on risk-averse victims. Such risk-bearing losses are important in a case like that of *Baker v. Morton*, since Baker was forced to give up his property for nothing, and perhaps would also be in a case like *Magnolia Petroleum* if the barge had been owned by a single individual.

From the foregoing, one can see that holdup creates several types of incentive problems and a possible problem of risk-bearing, but also has a possible desirable incentive effect on contractor search and investment.

### 3. Legal Intervention to Remedy Contractual Holdup Problems: In Theory

Having discussed the problems generated by contractual holdup, let us now examine how in principle legal intervention can alleviate these problems.\(^{18}\)

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\(^{18}\) The general point that legal intervention can remedy the incentive problems due to holdup is to my knowledge first developed in perceptive articles by Muris (1981) and Aivazian, et al. (1984), focusing on contract modifications (as opposed to fresh contracts). They do not analyze the main issue taken up here: legal intervention in the form of flat voiding of contracts versus legal intervention based on price.
Consider first situations in which holdup is engineered by contractors, such as in *Baker v. Morton*, the construction company example (b), and *Beckwith v. Frisbie*.

Because any effort devoted to creating situations of need is a social waste, it would be best to eliminate the incentive to engage in such effort. That can be accomplished if the court voids contracts in which positive effort was devoted to creating situations of need. An effort to organize a threat to drown a person like Baker will not be made if any resulting contract for sale of property would not be enforced; a company will not employ uncalled for construction methods if a modification it obtains as a consequence would not be enforced; and a transporter like Frisbie would not hold oats hostage if this could not allow it to obtain an enforceable increase in price.\(^{19}\)

Now consider contexts in which holdup situations are not created by contractors, and in which it is ordinarily desirable for contracts to be made when contractors encounter victims in need. Here, as explained in section 2, high prices create incentive problems for victims and impose risk on them, but also may create beneficial incentives for contractors.

Thus, as a general matter there will be an optimal price, impounding some of the contractual surplus, that will best resolve the problems of holdup and the potential contractor incentive benefit of a high price. The magnitude of the optimal price will depend on the context. Consider the issue of provision of contractor incentives, which would raise the optimal price. This would presumably be a significant factor for maritime rescue by professional salvors, especially if conducted in dangerous conditions, since

\(^{19}\) This observation, that individuals will not engineer situations in which they can engage in contractual holdup if their contracts would be voided, has been mentioned before, for example by Bar-Gill and Ben-Shahar (2005), sec. 1E, Craswell (1995), pp. 215-218, and Shavell (2004), p. 335.
these rescuers need a financial motive to search and to invest in vessels and equipment. But it is not obvious that, for instance, electricians need such incentives, for if a person needs an electrician, the person can usually just contact him.\textsuperscript{20} Risk aversion might be relevant in regard to a rescue price equal to half a fishing vessel’s value, where the vessel is the chief asset owned by a fisherman, but risk aversion would not be relevant in regard to a $2,000 price paid by a hotel that is part of a large, national chain of hotels.

Legal intervention to prevent price from exceeding the optimal price would in principle be desirable, since the holdup price would tend to exceed the optimal price (I set aside for now difficulties of implementation).\textsuperscript{21} Intervention could be undertaken by the courts in resolving contract disputes, and in two ways. Courts could directly control price by replacing an excessive contract price with the optimal price. Alternatively, courts could void any contract if the price exceeded the optimal price, thereby inducing parties not to name an excessive price (once they learned that the policy was in place).

\textsuperscript{20} An electrician might, however, need an incentive to monitor phone calls on weekends or after hours; and ships in distress could, if they had working radios and were not in imminent peril, solicit bids for help (as happened in \textit{The Elfrida}, as will be noted below). Thus, the comparison between the electrician and the salvor is not necessarily as clear as is suggested in the text.

\textsuperscript{21} The point just discussed, that when holdup is not engineered, legal intervention that controls price can alleviate the incentive and risk-bearing problems due to holdup, is, as has been stated, the main contribution of this article. Graham and Peirce (1989) and Johnston (1993) also consider judicial control of price, but in their analysis, price control has a different role from that here. Their models do not focus on holdup-related ex ante incentives or risk-bearing but rather on asymmetric information; price control in their models reduces the problem of inefficient failure to modify contracts and of litigation. Bar-Gill and Ben-Shahar (2004) comment on the possibility that courts could control price in their basic analysis, but price control has no holdup-connected advantage there; for it is optimal in their basic model for all modifications to be enforced, regardless of the magnitude of the price, because neither ex ante incentive effects nor risk are considered. (They briefly consider incentive and risk-bearing problems in an extension of their basic model, but not the control of price to alleviate these problems.)
Legal intervention could also be of an ex ante nature, effected through price regulation. This form of intervention will tend to be inferior to intervention by courts if it does not depend on the contractual environment in individual cases.22

The information of the state will, of course, be imperfect, meaning that practically optimal legal intervention will have to reflect the social cost of mistake. A major cost of mistake in setting prices is chilling desirable new contracts. If the price ceiling turns out to be less than the cost of furnishing aid, then a contract will not be made, even though the resulting harm to the victim could greatly exceed the cost of aid. For example, if the price allowed for rescuing a ship were less than the actual cost to the salvor (suppose there was a risk to the salvor, owing to high seas), the salvor would not perform the rescue and the ship might be lost.

Similarly, mistakes in overseeing the terms of modifications of contracts may result in undesirable breach. If the price increase permitted by courts for a firm seeking to renegotiate a contract in the face of higher costs is not sufficient, the firm might breach even though continuing with its performance would be better.

To guard against such costly mistakes resulting in failure to make desirable contracts or in undesirable breach of existing contracts, optimal policy should feature “generosity” in price setting and limits on whether there will be legal intervention.

4. Legal Intervention to Remedy Contractual Holdup Problems: In Practice

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22 Most examples of price regulation that will be noted in section 4 depend only on price, not on the contractual situation. However, an example is mentioned of a tow truck rate regulation that applies only in emergency circumstances, so this regulation does operate in a way that depends on the contractual environment. Even so, this regulation does not function so as to reflect the array of characteristics of the contractual context that courts would be likely to consider.
What decisions were reached by courts in the cases mentioned in section 2? In *Baker v. Morton*, the contract for sale of land was canceled. In *Beckwith v. Frisbie*, the price increase agreed to by Beckwith for release of his oats was not enforced. In *Magnolia Petroleum v. National Oil Transport Co.*, the $15,000 price was adjusted to $1,700, which, note, exceeded the $500 to $600 normal daily towing rate. In *Alaska Packers*, the court refused to enforce the agreed modification. In the hypothetical example (b) involving the construction company, my suspicion is that the contract modification would not be enforced, and in example (c) concerning the electrician and the restaurant, my belief is that the price would be adjusted, probably to an amount of at most several hundred dollars, for reasons to be discussed.

As these legal cases illustrate, courts sometimes do, or sometimes likely would, intervene in contracts, either to void them or effectively to control the price. Let me now summarize how this comes about under the law.

*Contract law: duress, good faith, unanticipated circumstances, and unconscionability.* Courts may intervene in contracts and their modifications on grounds of duress. According to the principles of duress, a contract or a modification may be voided if it is made as the result of an improper threat, and if the threat left the victim with little alternative. Improper threats include threats of crimes and torts, and threats to

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23 See Calamari and Perillo (1998), pp. 308-321, Farnsworth (1999), 264-273, Restatement of Contracts 2nd, §§174-176, UCC §2-209, and White and Summers (2000), pp. 57-60. See also the important articles on duress of Dawson (1947) and Hale (1943), and for extensive descriptions of cases, the still relevant articles of Dalzell (1942). It may be noted that duress and related doctrines were applied differently in the past: intervention in fresh contracts was less frequent; and intervention in modifications was more frequent (indeed, modifications were unlikely to be enforced whenever the seller received a higher price for doing what was already his contractual duty). See, for example, Farnsworth (1999), pp. 265, 276-283.

24 Restatement of Contracts 2nd, §175(1). The meaning of voiding the contract depends on whether property has been conveyed or a service has been provided. If the former, the contract can be undone; for
act in lawful ways but that would violate the general contractual duty of good faith and fair dealing;\textsuperscript{25} the duty of good faith and fair dealing is given particular emphasis in the context of contract modification.\textsuperscript{26} The victim’s not having much alternative appears to mean that he would suffer substantial disutility if the threat were carried out.\textsuperscript{27}

An important factor bearing on the enforceability of contract modifications is whether the circumstances that gave rise to a change in a contract were unanticipated and provided an economic warrant for the alteration. If these conditions are not satisfied, the modification is frequently voided.\textsuperscript{28}

An additional legal concept affecting judicial intervention in contracts and their modifications is unconscionability.\textsuperscript{29} Unconscionability can refer to procedural factors under which a contract was made – notably, to whether a party was in a circumstance of need or was uninformed – or to the substance of a contract – to the deviation of the price or other terms from what seems fair in the light of market conditions. Contracts or modifications deemed to be unconscionable are generally voided.

\textsuperscript{25} Restatement of Contracts 2\textsuperscript{nd}, §176, spells out categories of improper threats. On the general duty to act in good faith, see Calamari and Perillo (1998), pp. 457-461, Farnsworth (1999), pp. 504-509, Restatement of Contracts, 2\textsuperscript{nd}, §205, and UCC §1-203.

\textsuperscript{26} Farnsworth (1999), pp. 267-268, 282-283, Restatement of Contracts 2\textsuperscript{nd}, §§89(a), 176, UCC §2-209, and White and Summers (2000), pp. 57-60.

\textsuperscript{27} Restatement of Contracts 2\textsuperscript{nd}, §175, Comments b and c.


Let me now review certain aspects of the operation of these elements of contract law, especially as they relate to contract price and the possible chilling of contracts.

For certain types of improper threats, the voiding of contracts or of modifications generally does not depend on whether the price was considered unfair or deviant. This is true when the threat is to commit a crime, as in *Baker v. Morton*, or a tort, as in *Beckwith* (where the threat was to hold hostage another’s property).30 Another category of threats tending to result in voiding independent of price is threats violating the duty of good faith and fair dealing.31 The modification case given in example (b) could be considered to involve such misbehavior, since the company chose an unusual method of construction in order to be able to extract a price increase from the contract buyer. *Alaska Packers* could also be viewed as violating the duty of good faith, assuming that the crew took advantage of the vulnerability of the Alaska Packers Association when no replacement crew could be found and when the crew had no reason for seeking an increase. A further example of bad faith in a modification is *Capps v. Georgia Pacific*, in which Capps, a real estate broker, was forced to agree to radically reduce the commission owed him when Georgia Pacific threatened not to pay, knowing that Capps needed funds immediately to avert a mortgage foreclosure on his home.32

That agreements resulting from the types of threat just mentioned may be voided regardless of price is consistent with the analysis in section 3. It was stressed there that voiding removes the incentive to engineer situations of need and does not present a

31 *Restatement of Contracts 2nd*, §§175, 176(1)(d).
danger of chilling desirable contracts since those situations will not arise if there is voiding. The categories of threat under discussion are essentially engineered or at least have the characteristic that they would probably not have been made if it had been known that the threats would not result in enforceable contracts. The supposition, in other words, is that if the Omaha Claims Club knew its contract with Baker would not be enforced, it would not have threatened him; that if the crew in *Alaska Packers* knew its modification would not be enforced, it would not have threatened to quit; likewise with Georgia Pacific and its threat not to pay Capps, and so forth.

For other types of improper threats, those not crimes or torts or displaying bad faith, the voiding of contract or modifications may depend on whether the price was seen as unfair. The contract in example (c) involving the electrician might well be voided on grounds of unfairness of the price, since the price was $2,000 rather than the usual $80. *Magnolia Petroleum* and many other maritime rescue cases also provide illustrations (as will be discussed shortly). Another typical example is *Rodziewicz v. Waffco Heavy Duty Towing*, in which the court stated that a contract for $4,070 for towing a truck that had broken down on the highway, and for which the normal charge would be about $275, would not be enforceable. A modification example would be a case where a builder seeks a modification because his costs unexpectedly rise by $10,000, making the contract a losing proposition for him, but due to the great need of the buyer for timely completion, the builder is able to obtain a disproportionate modification increase in price of

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33 *Restatement of Contracts 2nd*, §176(2) states that a necessary condition for certain threats to be considered improper is that the “resulting exchange is not on fair terms.” See also §176 and Comments a and e. Also, §89(a) states that a modification is binding if it is “fair and equitable....”

Although in these examples courts did, or might be predicted to, explicitly mention the unfairness of price as a reason for voiding, an exorbitant price can exert influence as well by enhancing the willingness of a court to find bad faith or some other reason for voiding.

Cases in which modifications tend to be enforced are, as noted above, those in which the price was not seen as unreasonable and in which the circumstances that gave rise to a change in a contract affected the party threatening breach, were unanticipated, and provided an economic basis for the change. For instance, in Watkins v. Carrig, the Watkins firm contracted with Carrig to excavate his cellar for a stated price, but Watkins unexpectedly encountered rock, making his task harder to undertake than was foreseen. Carrig agreed to a price increase that was not found unreasonable in the situation, and the modification was enforced. In Goebel v. Linn, brewers agreed to pay more for ice than had been originally agreed, $3.50 rather than $2.00, when the ice crop failed due to an unexpectedly mild winter and no other suppliers of ice had ice available. Here, the price increase was said not to be too much under the circumstances and the modification was enforced. In Schwartzreich v. Bauman-Basch, a designer who had contracted to work for a wage of $90 a week received another offer for $115 a week. He obtained a modification in which his wage was raised to $100, which was enforced, presumably in part because of

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35 An essentially similar example is implicitly furnished by Goebel v. Linn, to be described shortly, in which the circumstances of a supplier of ice became more difficult. In this case, the modification was enforced, a primary reason being that the price increase for ice was found reasonable (see especially p. 494); if the price increase had been higher, presumably the decision would have been not to enforce the modification.

36 91 N.H. 459, 21 A.2d 591 (1941).

the reasonableness of the wage increase in the circumstances. In *The Sopranos* matter, a suspicion is that the increase in payment obtained by Gandolfini from HBO would be upheld if it was not grossly different from what he could obtain from outside offers (and apparently it was not), or at least that Gandolfini would have a greater chance of having his modification upheld than if he had obtained a much higher increase.

That the enforcement versus the voiding of the contracts and modifications in the types of cases under discussion depends on the price comports with section 3. For in the contexts at issue, it appears to be desirable that fresh contracts be made and that contractual relationships be continued, yet not at unreasonable price levels that would create substantial problems of holdup. In particular, it is desirable that electricians provide services to restaurants so that they can operate on New Year’s eve; that tow trucks provide emergency help to truck drivers like Rodziewicz; that contractors like Carrig continue their work on basements for individuals like Watkins; that ice companies deliver ice to prevent brewers like Linn from losing their stock of beer. These socially good things will happen, with prices or modified prices being kept in check, under properly applied price-conditioned voiding. In contrast, recall that there is no need for price-constrained voiding in cases like *Beckwith* and *Capps*; for in such cases flat voiding does not chill desirable contracting.

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38 231 N.Y. 196, 131 N.E. 887 (1921). An example of a contrary decision is *Davis & Company v. Morgan*, 117 Ga. 504 (Supreme Ct. of Georgia, 1903), where an employer increased the contract wage in response to an employee’s receiving a higher offer from another employer, but the court refused to enforce the modification in the wage. Today, however, it seems that enforcement would be more likely; see note 28 above.

39 That the $800,000 to $1,000,000 per episode that Gandolfini sought might have approximated his alternative market opportunity is suggested by this statement: “Gandolfini currently pulls in $400,000 per episode and is said to want the big-time money paid to other prime-time stars. (Ray Romano earns $800,000 per episode for *Everybody Loves Raymond* and Kelsey Grammer bags $1.6 million an episode on *Frasier*)” See E-Online, “HBO Puts Hit on Gandolfini,” March 11, 2003, in [www.eonline.com/News/Items/0,1,11420,00.html](http://www.eonline.com/News/Items/0,1,11420,00.html).
A number of observations about the law just reviewed and its economic interpretation are worth adding. First, intervention by courts on the basis of price does not seem to occur unless the price deviates substantially from the estimated market price. This is based on an impression gained from reading cases (for instance, in Rodziewicz the $4,070 price for a tow instead of the normal $275 charge was found excessive, but in Goebel v. Linn the $3.50 price for ice instead of $2.00 was not) and also on the inference that, were courts willing to intervene whenever price deviations are modest, the volume of litigation about unfair prices would probably be vast rather than limited in scope as it is. If this view that courts’ intervention is conservative in character is correct, it would fit with the point of section 3 that a cautious judicial policy may be desirable, given the costs of intervention and the danger of discouraging desirable contracts.

Second, the latter danger, of chilling desirable contracts, is an issue to which courts and commentators sometimes give explicit recognition. For example, in Goebel v. Linn, the court stated that it would be strange if the existing contract “could stand in the way of a new ... contract which should provide for a price that would enable both parties to save their interests.” Farnsworth expresses the same point in discussing modification of a construction contract.

Often, however, courts and commentators do not discuss the possibility of the policy of judicial intervention preventing desirable contracting. A typical example is Kelsey-Hayes v. Galtaco, in which Galtaco, a supplier of castings to Kelsey-Hayes,

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40 See the opinion, p. 493.
threatened to close down its losing foundry operations unless it received price increases of 60 per cent. Kelsey-Hayes agreed to this demand because it greatly needed the castings in order to provide brake assemblies to Ford, which would otherwise probably have had to halt production of a vehicle line. Although the court engaged in a detailed analysis of the case, it made no mention of the effect that its decision not to enforce the modification might have on the likelihood of undesirable breach in similar situations in the future. Yet it seems that the court’s decision might cause a breach in a future identical case, since a future Galtaco would know that it could not obtain an enforceable 60 per cent price increase. At the same time, the court apparently believed that a breach in the instant case would have been undesirable, since it would have caused Ford to halt production of its vehicle line. The lacuna in the court’s reasoning, its failure to account for the possibility of causing undesirable breaches in the future, is often encountered and suggests that the danger of judicial mistake is not small.

An additional observation is that courts do not generally intervene in contracts on the basis of price alone, but rather intervene owing only to a joint consideration of price and other circumstances, notably of the victim’s degree of need, whether he was in a situation of duress. The economic interpretation of this observation is informational, that the price alone does not ordinarily tell courts enough to allow them to make judgments about the appropriateness of contracts. When, however, courts know that not only was the price seemingly high, but also that the victim was in a situation of duress, the courts have in this fact additional evidence giving them reason to think that the apparently high price
was indeed excessive: for the element of the victim’s need gives the threatener the bargaining power to extract a high price.\footnote{It is instructive to contrast the general point now being made, that it is rational for courts to consider the victim’s situation of duress, to Bar-Gill and Ben-Shahar (2004), who stress on p. 417 that “courts should not examine whether the buyer was coerced...” and on p. 392 that modifications should be enforced “even if blatantly coercive,” whenever the threat to commit breach is credible. The reason for their interesting (and radical) recommendation is that they generally compare the policy of enforcing a modification at the agreed price with the policy of flat voiding of the modification, \textit{not} with the policy of price-conditioned voiding. Given the choice that they posit faces the courts, their conclusion is correct: for flat voiding would lead to breach, to the mutual detriment of the parties, presuming the threat to breach was credible. But if courts can pursue a policy of price-conditioned voiding, the courts can lower the price without causing breach. Hence, the situation of the victim of the threat becomes relevant, for as explained here, the victim’s circumstances allows the court to infer when the price was likely to have been high in comparison to that needed to avoid breach.}

To illustrate, if a court knows that a tug charged a vessel that was in distress $2,000 for a short tow when the normal price would be $500, the court will reasonably infer that the high price was obtained because the vessel did not have the opportunity to search the market for tug services but rather had to deal, on the spot, with a single tug. Suppose, in contrast, that a court knows that a tug charged a vessel the same price of $2,000, but that the vessel was not in distress. In this case, the court may infer that since the vessel presumably did have the time to search the market for tug services (perhaps using radio), the charging of a $2,000 price probably has an explanation involving factors affecting cost (perhaps the cargo in the vessel was fragile, so the tow had to be done carefully, using special equipment).

Another matter of interest is whether, when courts void a contract, they substitute a price they consider fair and, if so, how the new price is determined. In cases where the contract that is voided was a new contract and a service was performed, such as the towing of a vehicle as in \textit{Rodziewicz}, the party who supplied the service is normally compensated for it, at what is estimated by the court to be the market rate. This compensation for the service provided often occurs through application of a restitutionary
remedy. If, however, the new contract that is voided was for conveyance of existing property, the transaction can be undone (the property can be returned to the seller, and the money paid returned to the buyer), so there is no need for the court to determine a substitute price.\textsuperscript{44} If what was voided was a modification, the usual price that governs is the original contract price, so that, again, the court need not, and generally does not, determine a substitute price. Hence, except in the first category of cases (fresh contracts involving services), courts do not control price by providing a substitute price. Rather, the control of price, comes about because the voiding is conditioned on price – the parties know that if the price is too deviant, their contract or modification will not be enforced – or else because there is flat voiding (when threats are engineered or represent violations of the duty of good faith).

_Admiralty law: salvage contracts._ In cases involving contracts for salvage, admiralty law principles guide courts.\textsuperscript{45} Under these principles, contracts made when vessels are in great danger are subject to scrutiny, and if prices are excessive, they are reduced to a fair level. _Magnolia Petroleum_ is illustrative because the barge that was towed was in great danger and the $15,000 contract price was a large multiple of the fair price. To determine the fair price in that case, the court noted that the seas were not dangerous, so it used as its benchmark the normal towing rate of $500 to $600 a day, and generously awarded $1,700. In _Post v. Jones_, a whaling vessel, the Richmond, went aground and was rescued at little cost by other whalers.\textsuperscript{46} The whale oil aboard her was

\textsuperscript{44} Nevertheless, in order to decide whether to allow voiding of the contract, the court may want to compare the original contract price to the market price, meaning that the court must determine (if only implicitly) the market price.


\textsuperscript{46} 60 U.S. 150, 19 How. 150 (1856).
transferred to these vessels, but the price they paid was low, and the court did not enforce the price. In *The Elfrida*, a ship went aground but was not subject to an imminent risk.\(^{47}\) The Elfrida considered several bids from salvors for her refloating before accepting one for $22,000, to be paid only upon success; the value of the ship was about four times this amount. The court enforced the contract at the agreed price, emphasizing that the contract was made with deliberation, when the Elfrida was not in immediate peril, and that the salvor’s compensation was not assured because refloating her might not have been easy.

These cases help to illustrate not only the general point that the contract price may be replaced with a fair price when a vessel or her contents was at immediate risk – as in *Magnolia Petroleum* and *Post v. Jones* – but also the converse point that when a vessel is not in jeopardy, the courts are less likely to intervene – as they did not in *The Elfrida*. The cases also exemplify the principles used to determine the fair price. According to these principles, the fair price is supposed to reflect the time, expenses, and risks faced by the rescuing vessel, whether this vessel was a professional salvor (in which case courts tend to be more liberal), and the value and the risk faced by the vessel in distress.\(^{48}\)

The economic interpretation of what has just been reviewed in the light of our analysis of holdup is as follows.\(^{49}\) First, it makes obvious sense that the law should draw the distinction that it does between cases where vessels are in immediate peril and where they are not, since holdup is more likely to be a problem when the peril is imminent. In

\(^{47}\) 172 U.S. 186, 19 S.Ct. 146 (1898).

\(^{48}\) See, for example, Norris (2003), ch. 12, §§ 164, 170 on the general factors determining a fair price, and ch. 6, §81, on the liberal compensation of professional salvors.

\(^{49}\) The general thrust of what follows is similar to that in Landes and Posner (1978), pp. 101-104; see also Buckley (1990), pp. 46-47, and Trebilcock (1995), pp. 87-90. .
the circumstances of Magnolia Petroleum and Post v. Jones, the vessels in distress did not have the ability to obtain bids for rescue and faced large expected losses, so were in classic bilateral monopoly situations. In The Elfrida, in contrast, the danger was not immediate and the ship was able to solicit different bids for refloating.

Second, the elements of the calculation of the fair price are economically rational in that they are likely to produce prices that would be sufficient to encourage contracting while preventing holdup prices. In particular, the time, expenses, and risk faced by the rescuing vessel need to be taken into account to generate a price acceptable to that vessel for contracting. The attention given by admiralty law to the value of the vessel in jeopardy also reflects economic logic, because of the beneficial incentives that are engendered if payments to rescuers depend on the value of the vessel and on success in rescue. The relevance of whether the rescuing vessel was a professional salvor makes sense, since it is desirable for professional salvors to obtain higher prices (exceeding the marginal cost of rescue) to encourage them to remain in business and to invest in salvage equipment. Additionally, it may well be that the generosity of the courts in calculating a fair price, such as in Magnolia Petroleum, is motivated in part by a desire to avoid chilling desirable contracts due to imperfect information about the minimum price necessary to induce contracting.

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50 Awards for salvage and contracts for salvage are almost universally made only if the salvage effort was successful – on a “no cure, no pay” basis. See, for example, Gilmore and Black (1975), p. 535, and Norris (2003), ch. 7.

51 This is also seen as the purpose of liberality in awards to professional salvors by courts; see Norris (2003), ch. 6, §81.
Legislation controlling price. Statutes regulating price may have a limiting effect on holdup, as a number of examples illustrate.52

Many localities have imposed ceilings on prices that can be charged for towing disabled vehicles.53 This price regulation obviously restricts the possibilities for holdup, and that is seen as one of its purposes. For instance, in reviewing tow truck regulations, a New York court stated that “an accident is ... no place for bargaining as to rates of charge. Clearly, the motoring public is at a disadvantage in such circumstances and it is then that the unscrupulous take unfair advantage.” At the same time, this court did not endorse price regulation for towing in non-emergency situations or for repair or storage, contexts in which holdup is presumably not much of a problem.54

Another example of maximum price regulation is that which requires hotels not to charge more than their posted undiscounted room rates.55 This regulation might prevent hotels from engaging in classic holdup, for instance, raising their rates excessively on the spot for a person who comes in at a late hour and appears to strongly need a room (although they are free to set their undiscounted rates).

52 Numerous other examples could be supplied. One that I omit is utility price regulation, which Goldberg (1976) explains can be viewed as protecting consumers and suppliers against holdup by each other.

53 See, for instance, NEW YORK CITY, N.Y. ADMIN. CODE § 20-509, stating that “charges for the towing of vehicles shall not exceed fifty dollars for the first mile or fraction thereof and four dollars for each additional mile or fraction thereof...,” or PHILA., PA., CITY CODE § 9-605(6)(a), stating that “The maximum fee a tower may charge for towing a disabled vehicle is forty (40) dollars, and two (2) dollars per mile during normal work hours of 6:00 a.m. to 7:00 p.m. and fifty (50) dollars and two (2) dollars per mile for evenings, weekends and holidays...” I owe the example of the towing of disabled vehicles to Daniel Kelly, who wrote an excellent student paper about it.


An additional example, of significant historical importance as a form of maximum price regulation in Europe throughout the Middle Ages, concerns the principle of *laesio enormis*, holding that if a price in a contract or exchange exceeded 150% of the “just price,” the agreed price would be voided and the just price substituted.\(^{56}\) The just price was taken to be essentially the general market-determined price.\(^{57}\) Hence, the principle of *laesio enormis* functioned to prevent holdup, and this was intended. Scholars of just price state that an opinion of the times was that sellers should not be able to take advantage of a buyer’s special need.\(^{58}\)

It seems, then, that preventing holdup has been a rationale of many regulations that place upper limits on price. However, it should be noted that such regulations presumably have another function as well, namely, preventing those who are ignorant of the market price from being charged too high a price.

Two more examples of price regulation will be mentioned, which are different from the preceding because they effectively set prices rather than only limit prices and have problematic aspects. The first concerns taxi rates, which are usually mandated.\(^{59}\)

\(^{56}\) See Baldwin (1959), Dawson (1937), pp. 365-370, de Roover (1958), and Gilchrist (1969), pp. 58-62. The principle of *laesio enormis* originally protected only sellers of land from receiving less than half its market value but was generalized over the course of time; see especially Baldwin (1959).

\(^{57}\) The view that the just price was instead the fair price, primarily reflecting embedded labor, was refuted in the monograph by Baldwin (1959), which has generally been accepted by scholars as authoritative; de Roover (1958) is in the same vein.

\(^{58}\) For example, Baldwin (1959), p. 33, notes that “Sellers ... qualified for ... protections...when they could demonstrate unusual distress in their situations.” De Roover (1958), p. 426, described the views of an influential fifteenth century commentator, San Bernardino of Siena, in this way: “[N]o one is allowed ... to take advantage of a buyer’s ...special need.” Gilchrist (1969), p. 61, writes “The unjust price took advantage of some ‘weakness’ or necessity on the part of the buyer or seller....”

\(^{59}\) These may be found on the websites of many cities. For example, for Boston, see www.ci.boston.ma.us/transportation/cabs.asp; for Chicago, see http://egov.cityofchicago.org, and navigate to “Liveries and Taxis”; for New York City, see http://www.nyc.gov/html/tlc/html/passenger/taxicab_rate.shtml. The only variation in rates seems to be
Hence, taxi drivers do not have the discretion to engage in holdup, such as of a person who urgently needs to be taken to the hospital. Although it is desirable that taxi drivers be prevented from holding up customers who have pressing needs for a ride, the regulation of taxi rates is of course undesirable because it interferes with the classic allocative function of market prices. It would seem preferable, for instance, to allow taxi rates to rise when bad weather or convention business increases the overall demand for taxis, leading to the unavailability of taxis at the controlled rates. If flexibility in taxi rates could be effected without giving too much discretion to raise rates to individual drivers, rates could vary with market conditions but holdup of particular individuals could still be curtailed.

The other example is of statutes that prevent prices from increasing in the aftermath of emergencies. Florida, for instance, passed legislation following Hurricane Andrew prohibiting the charging of “excessive” prices during a declared state of emergency, and other states have enacted similar legislation. The Florida legislation stipulates that prices not deviate substantially from the average price in the month immediately prior to the declared emergency. The legislation was recently applied, after

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accompanying the time of day. For instance, in New York City rates involve a $1.00 surcharge Monday through Friday from 4:00 P.M. to 8:00 P.M. and an evening surcharge of $.50 after 8:00 P.M.

The control of prices is also undesirable due to the fact the supply-related function of price. I am here, though, assuming that the quantity of taxis is regulated, and discussing allowing the rate to vary to clear the market given the quantity of taxis.


The deviation that would result in a sanction is not defined numerically under the Florida legislation, but it is in some other states. For example, in Arkansas, a deviation would be sanctioned if it exceeded by 10% the average price in the previous month.
Florida was struck by hurricanes over the summer of 2004, to stem what was described as gouging by sellers of many products and services, for instance, for gasoline, generators, pumps, chain saws, and hotel rooms. This regulation prevents holdup of single individuals due to their particular circumstances, such as a motorist who runs out of gas as he pulls up to a gas station or a person who urgently needs a pump to prevent flooding that would destroy valuable property. But the regulation obviously suffers from the problem that it compromises the general allocative and production-related social advantages of allowing price to respond to changes in overall demand and supply conditions. If, following a Florida hurricane (causing an increase in demand and a reduction in supply of many goods and services), the price of gasoline rises from $1.78 per gallon to a new market level of $3.00 per gallon, the allocation of gasoline will be improved because only those individuals who place a relatively high value on gasoline will purchase it (such as hospital workers). When gasoline prices are controlled, however, gasoline stocks will be exhausted (as happened at many gas stations in Florida), so that individuals who were not lucky enough to have purchased it cannot do so, no matter how much they would value it. Regarding supply effects, one might imagine that, if gasoline prices were permitted to rise in Florida, more gasoline would have been trucked in from Georgia, and so forth. These textbook effects of emergency price controls seem to have been overlooked by the authors of the regulation. A motivation for the regulation appears to be to help the mass of individuals from having to pay higher prices after an

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63 For example “Price gouging in Florida: 10,000 to remove a tree,” by Joseph B. Treaster, The New York Times, August 18, 2004, reported prices of $3.00 per gallon of gasoline instead of the prior price of $1.78, $2,000 for a generator instead of $250, $109 for a room at a motel instead of $39.99. The story also mentioned a man with a chain saw who offered to clear an oak tree from a person’s roof for $10,500.

64 See “Price Gouging Saves Lives” by David M. Brown, August 17, 2004, at dmb1000@juno.com.
This motivation is different from, and should not be conflated with, the objective of preventing holdup of single individuals whose demand for a good or a service is much greater than that of the mass of individuals.

5. Relationship to the Economic Theory of Contracting

I remark here on the relationship of the foregoing analysis to mainstream economic theory and contracts.

Prevention of holdup as a justification for legal intervention in fresh contracts.

There are two standard reasons for legal intervention in contracts: asymmetric information and externalities. To these broad rationales for intervention, prevention of holdup should seemingly be added, for as has been emphasized above, holdup justifies intervention in principle, and intervention for this reason certainly occurs in practice. Moreover, holdup is a problem that is independent of asymmetric information and externalities. (The problem faced by a ship in distress need not involve any informational asymmetry between the ship and her rescuer nor any externality.)

Prevention of holdup as a ground for legal intervention may be viewed as a consequence of parties’ inability to contract at an earlier time. If, for example, ships that might need rescue were to contract at the beginning of the year with professional salvors who might give aid, it would be in their mutual interest to stipulate reasonable prices for aid (or to arrange prepayment) in order to eliminate the costs and the risk that would otherwise be induced by the anticipation of holdup. Such contracting is usually

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65 If it were thought that the implicit insurance benefit of holding down prices outweighed the losses due to interference with the allocative and productive effects of permitting a price rise, the regulation might be defended; this seems to me a weak rationale for the regulation.
impractical, though, because there are so many parties who would have to be involved in the ex ante contracts.

This point is illustrated in a converse way by an example in which parties are able to contract before holdup might occur and where they do thereby prevent subsequent holdup. Members of the American Automobile Association (AAA) avoid holdup when they need towing service, because the AAA contracts with tow truck companies across the country to provide tows to its members. In effect, via the medium of the AAA, drivers and tow truck companies contract ex ante to avoid the holdup problem. (Thus, in the case of tow truck service, we can see ex ante contracting as well as contract law and maximum price regulation at work to control the holdup problem.)

Prevention of holdup as a justification for legal intervention in modifications of contracts. It has of course been a major theme above that prevention of holdup justifies legal intervention in contract modifications, and it is evident that such intervention is an important aspect of contract law.

The economic contracting literature generally makes conflicting assumptions. First, it is usually supposed in the literature that courts do not intervene in contract

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66 As described at www.aaa.com, if an AAA member needs roadside assistance, he or she must call one of the 13,000 garages under contract with the AAA. The service provider from such a garage will then attempt to remedy the problem (for instance, by changing a flat tire) without a fee (except that up to $50 may be charged for lockout and key-related difficulties). If the car is still not functional, a free tow to the service provider’s garage or the nearest AAA garage is provided at no cost. The AAA member may also elect to have the car towed to a different destination, in which case, in New England, the member will not be charged for the first three miles, and will only be charged a fixed rate of $3 per mile after the third mile (the number of free miles and the rate applied thereafter may vary according to the region of the country).

67 For general treatments, see Bolton and Dewatripont (2005), chs. 11 and 12, and Hart (1995); and see the model of contracts introduced in Hart and Moore (1988). See also, for example, Aghion, Dewatripont, and Rey (1994), Che and Hausch (1999), Chung (1991), Edlin and Reichelstein (1996), Nöldeke and Schmidt (1995), Schwartz and Watson (2004), and Tirole (1999).
modifications, because they do not have information that would allow them to do that. Whatever modifications the parties make, the courts are assumed to enforce.

Second, and related, the holdup problem that might occur during modification is assumed to be addressed by the parties through a choice, made at the initial contracting stage, of a mechanism that would govern renegotiation. The use of such contractually-specified mechanisms does not, however, appear to be important in reality. At least I have not encountered references to contractual provisions that would guide or constrain modification in the many cases that I have read or in legal commentary. If this preliminary observation about the infrequency of use of modification-mediating mechanisms is borne out by empirical investigation, it will call for explanation.

A speculation about the answer is that, on one hand, it is expensive for parties to designate effective mechanisms in their contracts, due to the variability of circumstances that might call for renegotiation. On the other, courts can obtain substantial information ex post, after the realization of events, so may do tolerably well in controlling holdup. Explicit consideration of these factors in future theoretical models of contracts may be warranted.

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68 One of the few examples of such mechanisms of which I am aware is a clause that parties sometimes employ in construction contracts stating that if, due to an unanticipated circumstance, the parties want to make a change and cannot agree on a new price, the price adjustment should equal the cost difference due to the change plus an allowance for reasonable profit. This example is described in Bajari and Tadelis (2001), p.391, which refers to American Institute of Architects (AIA) document A201. Not surprisingly, it seems designed to prevent holdup.
References


Appendix

I consider here the issue of holdup when new contracts are made, using the model described informally above. (For simplicity, I do not consider holdup when contracts are modified.) Assume that victims and contractors might meet when victims are in situations of need and, for convenience, that they are risk-neutral. If a victim in a situation of need meets a contractor, the latter can furnish aid and save the victim from suffering harm at a cost less than the harm; otherwise the victim will suffer harm. Let

\[ p = \text{probability that a victim finds himself in a situation of need}; \]

\[ q = \text{probability that a contractor meets with, and thus may contract with, a victim, given that he is in a situation of need}; \]

\[ c = \text{cost to a contractor of giving aid to a victim in a situation of need, thereby preventing harm}; \]

\[ h = \text{harm sustained by a victim in a situation of need if he is not given aid}; \]

The probabilities \( p \) and \( q \) may be functions of the effort levels of victims and contractors, as will be discussed below. The cost \( c \) is assumed to be less than \( h \), and \( c \) is assumed to be the same for all contractors and \( h \) the same for all victims.

The social objective is to minimize total expected social costs, the costs of effort (to be described), of aid, and of harm suffered.

If a contractor and victim in a situation of need meet, it is assumed that their information is symmetric and that they make a contract in which the contractor obtains a positive fraction of the surplus. Let

\[ \lambda = \text{fraction of the surplus from a contract obtained by the contractor}. \]

Since the surplus from a contract is \( (h - c) \), the contract price will be \( c + \lambda(h - c) \).
Let me now consider the two versions of the model discussed above.

1. **Contractors Engineer Situations of Need**

Here assume contractors can raise the likelihood of situations of need and that victims can reduce it. Specifically, let

\[ x = \text{effort level of a victim}; \]

\[ y = \text{effort level of a contractor}; \]

and suppose that \( p = p(x, y) \), where \( p_x < 0, p_{xx} > 0 \) when \( p \) is positive, where \( p_y > 0, p_{yy} < 0 \) when \( p \) is less than 1, and where \( p(x, 0) = 0 \). Assume also that \( x \) and \( y \) are chosen before situations of need might arise.

The first-best level of social costs \( S \) is obtained by minimizing

\[
S(x, y) = x + y + p(x, y)[qc + (1 - q)h]
\]

over \( x \) and \( y \), since it is optimal for aid to be given whenever a contractor meets a victim. This expression is minimized at \( x^* = 0 \) and \( y^* = 0 \), in which case \( S(0, 0) = 0 \), for \( p \) is 0 when \( y \) is 0. (Here and below, * designates first-best levels of variables.)

The Nash equilibrium behavior of parties in the absence of legal intervention is described as follows. A victim chooses \( x \) to minimize

\[
x + p(x, y)[q(c + \lambda(h - c)) + (1 - q)h],
\]

so, if \( x \) is positive, it satisfies

\[
1 = -p_x(x, y)[q(c + \lambda(h - c)) + (1 - q)h].
\]

A contractor chooses \( y \) to maximize

\[
p(x, y)[q\lambda(h - c)] - y,
\]

so, if \( y \) is positive, it satisfies

\[
1 = p_y(x, y)[q\lambda(h - c)].
\]
Assume for simplicity that the equilibrium, denoted \((x(\lambda), y(\lambda))\) is uniquely determined by \(\lambda\). In general, not only is \(y(\lambda)\) positive for \(\lambda\) sufficiently high, but because of that, \(x(\lambda)\) is also positive, making \(S\) positive rather than 0.

With regard to legal intervention in contracts, we want to verify that *if the state flatly voids contracts, the first-best outcome will result*, that is, contractors will not exert effort to engineer situations of need and victims will not exert effort to reduce the chance of such situations. This conclusion is evident, since if contracts are voided, contractors cannot make profit so will choose \(y = 0\). Hence, \(p = 0\), implying (see (2)) that \(x = 0\).

Note that the state needs no information to implement the voiding policy that results in the optimal outcome. This is because a situation of need can only arise if contractor effort \(y\) is positive. If, however, the model is changed, and it is assumed that \(p(x, 0) > 0\), situations of need can arise even if \(y = 0\). Then the policy that results in the optimal outcome would be to void contracts whenever \(y\) is positive; this would require the state to observe \(y\).

**2. Contractors Search for Victims in Situations of Need**

Suppose now that contractor effort raises the probability that they will locate victims in situations of need and that victim effort again reduces the probability of situations of need.\(^{69}\) Thus, assume that \(q = q(y)\), where \(q(y) > 0\) and \(q''(y) < 0\) when \(q\) is less than 1, and that \(p = p(x)\), where \(p(x) < 0\) and \(p''(x) > 0\) when \(p\) is positive.

The first-best level of social costs is obtained by minimizing

\[
S(x, y) = x + y + p(x)[q(y)c + (1 - q(y))h]
\]

over \(x\) and \(y\). Assuming that they are positive, the optimal values \(x^*\) and \(y^*\) satisfy

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\(^{69}\) This model is a version of that in Landes and Posner (1978).
Regarding the equilibrium behavior of parties, a victim selects $x$ to minimize

$$x + p(x)[q(y)(c + \lambda(h - c)) + (1 - q(y))h],$$

so, if $x$ is positive, it satisfies

$$1 = -p(x)[q(y)(c + \lambda(h - c)) + (1 - q(y))h] = 0.$$ 

Comparing this to (7), one can see that since bracketed term includes $q(y)\lambda(h - c)$, $x$ is socially excessive given $y$, and the more so the greater is $\lambda$. A contractor chooses $y$ to maximize

$$p(x)[q(y)\lambda(h - c)] - y,$$

so, if $y$ is positive, it satisfies

$$1 = p(x)[q(y)\lambda(h - c)].$$ 

Comparing this to (8), it is apparent that when $\lambda < 1$, $y$ is socially inadequate given $x$, and the more so the lower is $\lambda$. Again, denote the equilibrium values of $x$ and $y$ by $x(\lambda)$ and $y(\lambda)$.

Now consider legal intervention in contracts. Let $z = $ regulated contract price,

where $h \geq z \geq c$ (for $z > h$ or $z < c$ cannot be optimal, as then contracts for aid would not be made). Given $z$, victims choose $x$ to minimize

$$x + p(x)[q(y)z + (1 - q(y))h]$$

and contractors choose $y$ to maximize

$$p(x)q(y)(z - c) - y.$$
These two problems implicitly determine $x$ and $y$ as functions of $z$, so that social costs can be written as

$$S(z) = x(z) + y(z) + p(x(z))[q(y(z))c + (1 - q(y(z)))h],$$

and let $z^*$ be the optimal price, minimizing (15) (we assume uniquely, for simplicity). Note that $z^*$ leads only to a second-best optimum.\(^{70}\)

Now in the absence of legal intervention, the contract price will be $z(\lambda) = c + \lambda(h - c)$, which might or might not exceed $z^*$. Hence, if the state sets the contract price at $z^*$, then the second-best optimum will be achieved regardless of the unconstrained price $z(\lambda)$. Also, when $z(\lambda) \geq z^*$, if the state employs a contract price ceiling, the second-best optimum will be achieved, whereas if contracts are enforced at the unconstrained price $z(\lambda)$, the outcome will be inferior. As noted in the text, the price ceiling policy can be implemented in two equivalent ways: by altering $z(\lambda)$ to $z^*$, or by voiding any contract in which the price $z$ exceeds $z^*$. (Moreover, if the state were to void all contracts, the second-best optimum obviously would not be achieved.)

The determination of $z^*$ requires the state to minimize (15), which requires the state to know $c$ and $h$ and the functions $p(x)$ and $q(y)$. It would be straightforward to introduce into the model uncertainty on the part of the state about the contractual environment, by considering distributions of $c$ and $h$ and of parameters identifying the functions $p(x)$ and $q(y)$.

\(^{70}\) This is clear, since for (7) to be satisfied, $z$ must equal $c$, whereas for (8) to be satisfied, $z$ must equal $h$. 