Deal or No Deal? Or Perhaps a Better Deal?
The Impact of Improved Information

BY DONALD R. PHILBIN JR.

A spunky St. Louis grandmother and preschool teacher claims $1 million. Her unseen opponent offers her $38,000. As they work through previously undiscovered information, they conclude a “deal” at $272,000.

No, this deal doesn’t settle a claim on the eve of trial. It concludes the 2006-07 season of the popular NBC television series, Deal or No Deal. There, contestants select one of 26 suitcases containing amounts between one cent and $1 million. The parties then discover the contents of the selected case by eliminating the other 25. (See www.nbc.com/Deal_or_No_Dead.)

Fun or annoying, the show gives a national audience exposure to the vagaries of valuation with incomplete information. Both the Wall Street Journal and National Public Radio have examined academic research into the probabilities issues the show presents.

Contestants begin with a one-in-26 chance—3.8%—of the 26 outcomes being $0.01 and $1 million. In the U.S. version of the show—which airs in more than 50 formats worldwide—each selection simultaneously reduces the total number of outcomes while increasing each of their probabilities. After selecting the first six cases, contestants know the odds of any single outcome have dropped to one in 20, or 5%, and hope that the top outcomes, including the hype $1 million payoff, remain in play. An unseen “banker” calls at various points to offer settlement.

Of course, the offer varies depending on the expected value of the remaining suitcases. But the offers do not mathematically equal the net expected value of the remaining outcomes. And like all negotiations, psychology plays an important role—helping make this show a television event.

While negotiating claims in the shadow of the law are more complex, similarities abound. Litigants and contestants are routinely asked to make decisions with less than-perfect-information. That is not always bad—especially if time and transaction costs are associated with continued discovery. Perfect information may reveal a player’s case to contain only $20.

Absent that certainty, however, contestants often have an opportunity to make a better deal. Of course, the reverse also is true. Many have taken the certainty of a sure deal when later—and perfect—information revealed more favorable outcomes.

So if “certain” decisions are impractical because perfect information is elusive or prohibitively expensive, how do we combine law, economics, and psychology to increase the probability of a more efficient deal?

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apists to try to retrain workers with severe cases to work in a different job. This technique can be effective because it gives the worker higher earning capacity and reduces the wage loss expense.

10) Compare Prices. Under this technique, employers periodically compare the prices of medical service providers, workers compensation insurance premiums, and attorneys. This technique can be effective whenever it helps them obtain the best service at the lowest cost.

**AVOIDING EXPENSES**

The techniques described above can help employers in a variety of conflict resolution settings.

Nonunion employers often provide their employees with a dispute resolution system that permits them to file a complaint to someone inside the company. A key advantage of resolving disputes internally is that both the employee and the employer can avoid the expense of legal fees.

**Deal or No Deal?**

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Rigorous legal analysis is the foundation of case evaluation. Lawyers associate legal causes of action and remedies with party interests—e.g., “We missed our quarterly numbers because they failed to deliver widgets on time.” Not unlike *Deal*, a range of outcomes result. A breach of contract claim may yield benefit-of-the-bargain damages. An associated tort action may allow punitive damages that exceed that measure, but come with longer odds. Of course, defenses may reduce or eliminate any recovery.

Advising litigants that their outcomes range from $0.01 to $1 million is not that satisfying. Worse, psychologists remind us that we lock on the most favorable number—*Deal* contestants inevitably focus on the $1 million result, if for no other reason than to make decisions more manageable.

**NO ‘GOOD’ CHANCE**

But even with half the suitcases opened, contestants still do not have a “good” chance of winning $1 million. With nothing to lose, it makes good theatre. Faced with personal or economic injury and the transaction costs associated with improved information, one may reasonably search for ways to increase the likelihood of an efficient outcome without turning over every rock. We are comfortable making decisions with less-than-perfect information routinely—60% may be great for a new product launch but not for bet-the-company-litigation.

By layering economic analysis atop legal analysis, we begin to build economic scenarios. Economic analysis does not predict a certain outcome; it helps us analyze uncertain decisions by thinking in terms of the range of potential outcomes that might result if we tried the same claim 100 times. Some outcomes will be high and others low, but the majority gravitates to the center of a bell curve. The contours of that curve can make a big difference, and modifying assumptions one-at-a-time tests sensitivity to each change.

In the process, the scenarios crystallize decisions. They can even be displayed graphically in a decision-tree format. See Chart I at the bottom of page 182. If we know that the $1, $200, $300, $500,000, and $1 million cases are unopened, and the chances of each outcome are equal at 20% each, the contestant faces this choice in the chart.

These complaints often are resolved informally through discussions or mediation. During this process, the employer has the opportunity to explain to the employee directly what reports they have obtained from their company doctor or independent medical examination, as well as the implications of these reports.

If the employer and employee are unable to resolve their dispute internally, the employee always will have the right and option to hire an attorney, and file a complaint with the appropriate state agency. Where there is a union that represents the employees, it is more common that the union will advise the employee to file the complaint directly, with their own attorney or the state workers compensation bureau.

But even when this occurs, there is still a good chance that the dispute can be resolved short of an actual trial. Many states are implementing voluntary or mandatory mediation programs that provide a dispute resolution process. In these programs, the employer and employees and their legal representatives meet and attempt to resolve their dispute voluntarily. This is more expeditious, and the trial or hearing expenses can be avoided.

Typically the discussion in these dispute resolution meetings focuses on the likelihood of winning or losing the case, based on the medical and activity evidence that the parties have obtained.

In some cases, the parties may discuss whether there is light duty or favored work that is available and appropriate for the employee to return to work. The parties also may discuss the costs of alternative treatments and the appropriateness of vocational rehabilitation for the employee.

When a voluntary settlement is achieved, it may take the form of a lump sum settlement. The bottom line is that there is a big advantage with voluntary dispute settlements: Often both parties are more satisfied with the outcome.

![Assessing the Odds](chart)

**The issue:** What are your chances for a given outcome in a negotiation?

**The problem:** Legal analysis is hard enough. Layering economic analysis on top of it is daunting.

**The bottom line:** You’re already valuing every negotiation move. Applying common economic principles to monitor yourself is common sense—with lessons learned from a game show.

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The unopened suitcases’ net expected value, or NEV, is $300,100. But more than half of that value is dependent on a single outcome. With $1 million out, NEV falls to $125,125. So the spunky school teacher settles for the banker’s sixth-round $272,000 offer, nine percent below NEV. A big win for anyone, even if the maximum $520,000 outcome would have come three rounds later—right before perfect information revealed that her case contained just $200.

MIND GAMES

There are obvious psychological principles at play. This contestant was fairly risk-seeking—she turned down two six-figure offers, $145,000 and $201,000. And that is not unusual for someone facing a sure gain. She also was overconfident.

The producers hype the $1 million outcome without much mention of the higher probability of something much lower. In fact, no one walked away with $1 million this season.

Outcomes vary widely in repeat play, but the spread between the offer and NEV on a normalized basis does not. The banker’s opening bid is usually 35% or less of NEV. As contestants continue risking early offers to discover more perfect information, the gap between the offer and NEV closes, but not quickly. Contestants usually have to open 20 of the 26 suitcases, or 77%, by Round 5, to reach 80% of NEV. And in limited online play, it seems to take even longer. See Chart II below.

Negotiations also follow a ritualistic “dance” that is heavily influenced by improved information and time. Fixed price car deals have not caught on widely because we are accustomed to the dance—and we tend to suffer Winner’s Curse if the dealer accepts an early offer.

In fact, some experts in the field say that subsequent negotiation offers take twice as long and concede half as much. Whatever the interval, few negotiators offer their best terms without some give and take.

PROCESS DESIGN ISSUES

If contestants and litigants are more satisfied with a process that recognizes a need to arrive at satisfactory outcomes incrementally by comparing real alternatives through improved information, how do we design a process that appeals to those interests?

Mediation is an obvious but incomplete answer because it covers such a wide range of practices. Some would say that mediators should simply keep the parties talking. Others would argue that the neutral needs to throw a cold-water evaluation on the contestant running for $1 million because no one has done it yet. Each has its place.

But what if the neutral were to guide the parties through a cathartic discussion of past events—probably the equivalent of their “day in court” since 98% settle pretrial—and turn their attention to the future through an elicitive probe of the range of outcomes, probabilities, and choices before them?

Deal contestants bring friends and family to advise them. Litigants have the advantage of repeat-playing lawyers that know the market—and the legal system essentially forces parties to write call-options for one another at prices that are negotiated between them or imposed by others.

Mediators are uniquely positioned to help parties explore informational disparities under an umbrella of confidentiality. Even without sharing the information—unless given permission to do so strategically—a mediator can better probe each side’s outcome and probability assumptions with a more rounded view of the case. With or without transaction costs, a zone of potential agreement, or “ZOPA,” may emerge from overlapping bell curves depicting the potential outcomes.

YOUR OPPONENT’S VIEW

And negotiation is not simply a matter of bracketing legally available remedies and running scenarios based on the probability of those outcomes. Psychology plays an important role. Even the best idea conveyed by an opponent will be heavily discounted.

In fact, a Cold War experiment quantified the extent of this “reactive devaluation.” Soviet leader Mikhail Gorbachev made a proposal to reduce nuclear warheads by one-half, followed by further reductions over time. Researchers constructed a test attributing that proposal to President Ronald Reagan, a group of unknown strategists, and to Gorbachev himself. When attributed to the U.S. President, 90% reacted favorably. That dropped marginally when attributed to the third-party, to 80%, but dropped by more than half, to 44%, when attributed to the Soviet leader himself.

Planning for successful negotiations is a multifaceted endeavor. It cannot be done without rigorous legal analysis. Normalizing that analysis with probabilities crystallizes our own thoughts. More im-

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CHART I: Using a Decision Tree

CHART II: Offer as a Percentage of NEV

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Mediation offers a safe and effective place to test party aspirations with a variety of tools. Under various statutory provisions protecting mediation, and evidentiary rules excluding settlement negotiations, parties can share background information with a mediator, enabling him or her not only to test the range of remedies associated with legal causes of action, but build economic models with those remedy brackets.

Economic models do not predict specific outcomes. Rather, they help us translate gut instincts like “good case” into probabilities. If we assume that the same case will be tried 100 times and begin to quantify the number of trials that might result in various outcomes, a form of bell curve starts to emerge. With no more than rough guesses as to the number of times a trial may result in high, medium, low, and zero outcomes, scenarios start to emerge.

The magic is not in the mathematical precision of the resulting economic calculations. It’s in the conversations that the modeling facilitates. Psychologically, we focus on information that reinforces our desired outcome. So if we want a $1 million recovery and perceive that we have a good case, we naturally combine the two to mean we have a good shot at $1 million.

Of course, the reverse also is true. If we are defending the claims, we may focus on $0 and believe our “good case” lies there. The highest probabilities may in fact lie between those two brackets.

Like Deal or No Deal contestants, our estimates may change with improved information. Skilled mediators can draw caucuses to test party aspirations with a variety of economic models with those remedy brackets. Under various statutory provisions protecting mediation, and evidentiary rules excluding settlement negotiations, parties can share background information with a mediator, enabling him or her not only to test the range of remedies associated with legal causes of action, but build economic models with those remedy brackets.

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