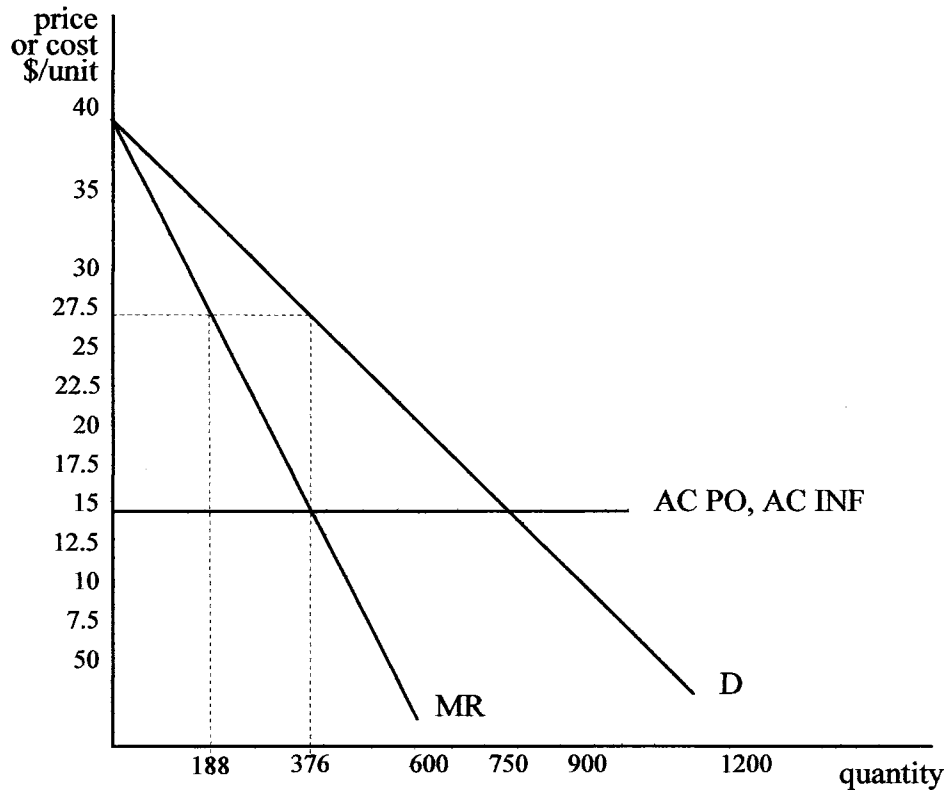


AN EXAMPLE

Patent owners and infringers should have a way to quickly, cheaply, and accurately assess the prospects for settlement and the range of mutually advantageous terms. They should also be able to generate charts and graphs that provide those who make settlement decisions with the data of ultimate importance. This book describes how to do so.

Consider what is needed to evaluate the simplest situation involving a patent. Figure 1 is an example of a market in which a patent owner and an infringer are the only sellers, are equally efficient, and sell exactly the same product at the price that maximizes collective profits—the one situation where patent law on injunctions and damages leads to a relatively predictable and sensible result.

Figure 1



The curve D shows the annual demand for the product the patent owner and a potential infringer each sell. If the patent is as broad as the patent owner asserts, the infringer could sell nothing to those customers without using the invention. The average total cost per unit of producing and selling for the patent owner and the infringer is the same, \$15 per unit. If there were no infringement and the patent owner sold at a single price to all consumers, the additional or “marginal” revenue the patent owner would earn

by selling an additional unit is shown as MR. If there were no infringement, the patent owner would produce at the most profitable quantity, 376,000 units, and sell at \$27.50 per unit. This is the quantity at which the cost of producing and selling one additional unit, \$15, equals the marginal revenue from that sale, also \$15. The infringer also sells at \$27.50 per unit. Each captures half the customers. Each sells 188,000 units. If the patent owner made the sales lost to the infringer, the patent owner could produce the additional 188,000 units at \$12.50 per unit. The infringer has the same capacity.

Suppose the patent owner commences an action after the infringer has been selling for five years. The patent owner and infringer discuss settlement immediately after a complaint is filed. Each believes it would take five years to litigate the action to a final conclusion. After those five years, the patent would have five years to expiration. Assume initially that each is able to litigate to judgment at no cost. Each is also able to negotiate settlement without cost. The patent owner believes it has an 80% chance of winning and that, if it wins, it will be awarded lost-profits damages and an injunction. The infringer believes the patent owner has only a 60% chance of winning and that lost-profits damages and an injunction will follow.

In this situation, there are no economic gains from licensing. Damages will be measured by lost profits. Ignoring prejudgment interest, lost profits damages will be about \$28M without prejudgment interest, roughly the average damages awards in litigated actions from 2000 to 2008. An injunction is virtually certain to issue. The patent owner views the value of an injunction and the infringer views its cost over the remaining term of the patent as the net profits gained or lost with costs including fixed costs. Damages for the five-year periods before litigation and during litigation are larger because they are based on patent owner incremental costs. The commercial value of the invention to the patent owner without licensing is the patent owner's entire net profits selling at \$27.50 and supplying the total market quantity. The commercial value of the invention to the infringer with licensing is the infringer's net profits selling at that price to half of the market.

Will this action be settled and, if so, on what terms? Ignoring risk, this is the situation. The following Chart 1 shows in total dollars (numbers are thousands) the parties' perceptions of the expected commercial value of an invention in the future without licensing for the patent owner (item 1.) and with licensing for the infringer (item 2.), their respective expected value and cost of litigation for the future (items 5. and 6.), the patent owner's minimum and infringer's maximum license payments for the future assuming litigation value and costs control (items 9. and 10.), their respective expected value and cost of damages for the past (items 13. and 14.), their respective expected total value and cost of litigation for the past and future (items 17. and 18.), the minimum and maximum amounts for settlement with a license (items 21. and 22.), their respective expected value and cost of an injunction (items 25. and 26.), and the minimum and maximum amounts for settlement with an injunction and no license ((items 25. and 26.).

**Chart 1 - SETTLEMENT RANGE IN TOTAL DOLLARS BASED ON EXPECTED VALUES AND COSTS
(2005-19)**

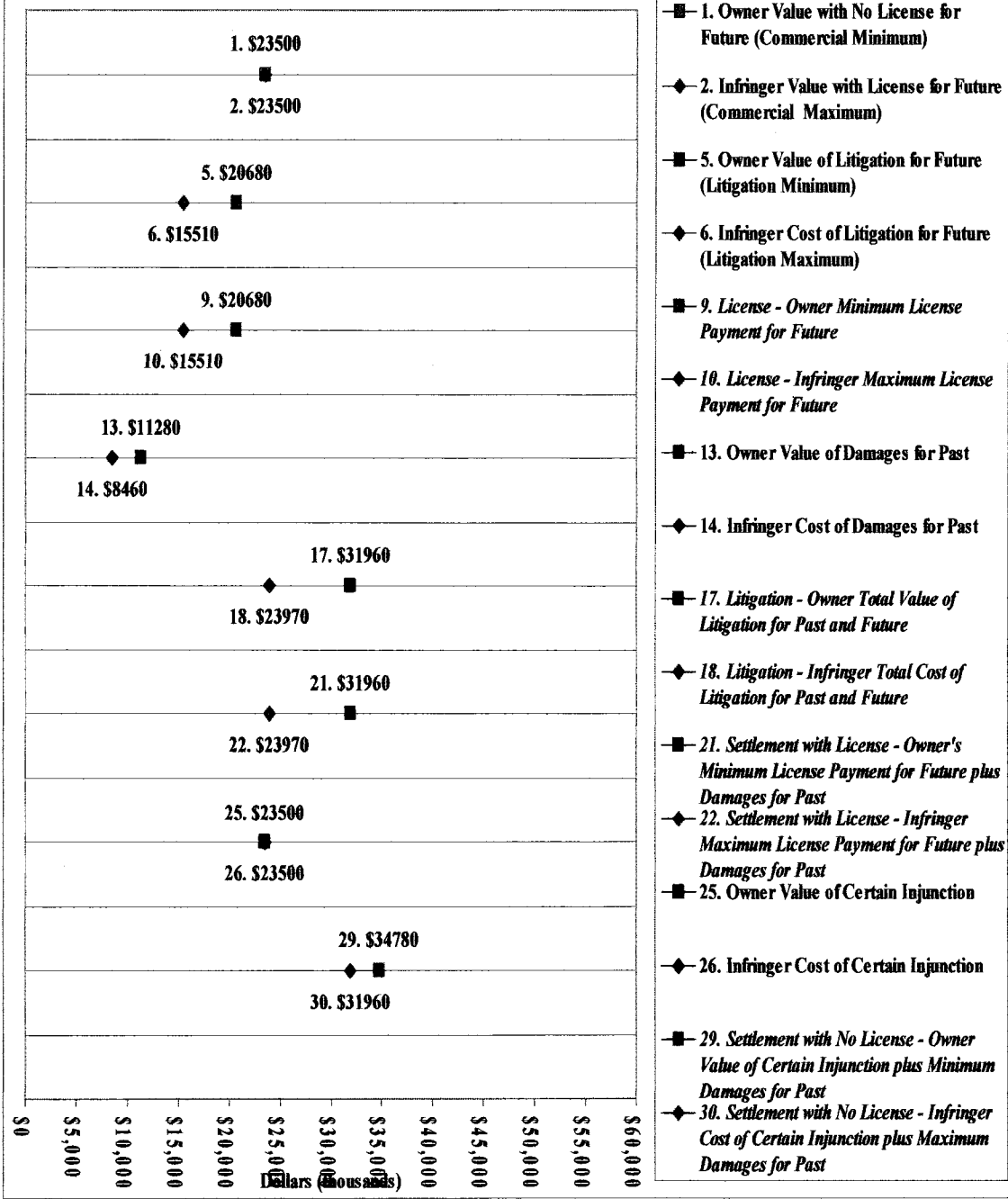
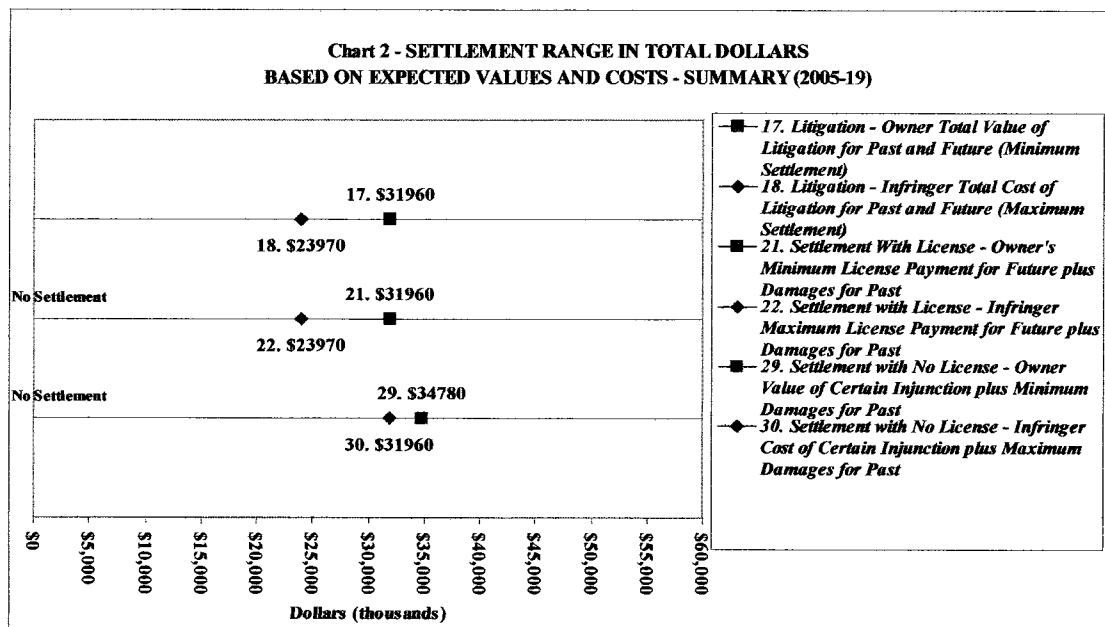


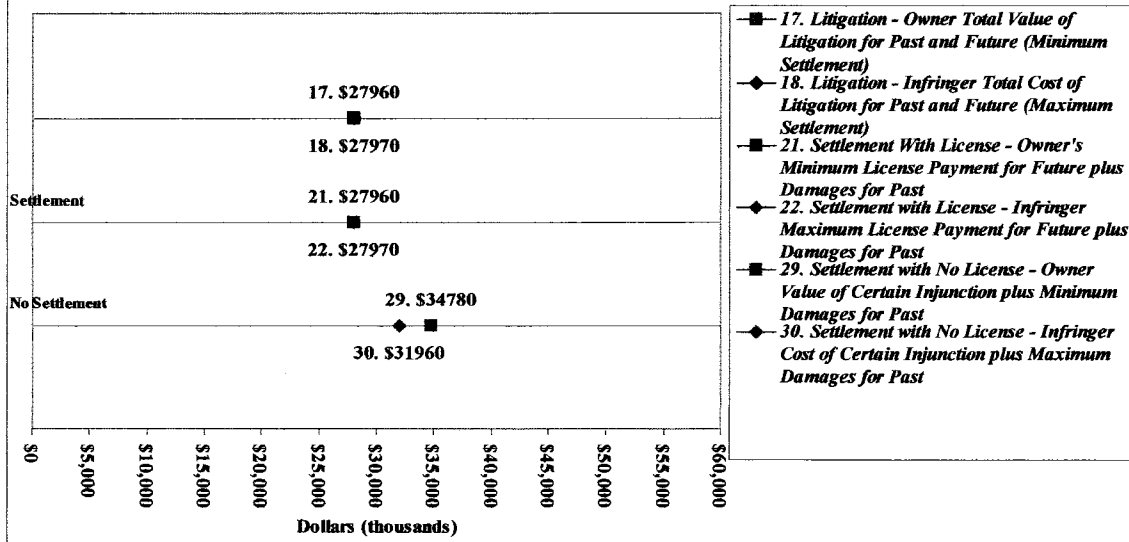
Chart 2 below is a summary showing the items of ultimate importance and their implications for settlement.



There are no economic gains from licensing. The commercial value of the invention to the patent owner without licensing is the same as the infringer's value with licensing, \$23.5M. The litigation value of the patent to the patent owner for the future, \$20.68M, is less than the commercial value of the invention to the patent owner, \$23.5M, and the litigation cost of the invention for the infringer for the future, \$15.51M, is less than the invention's commercial value to the infringer in the future, \$23.5M. Since the infringer is likely to use the invention in the future without licensing, litigation value and cost are likely to control licensing. There will be no settlement with a license because the patent owner's minimum settlement amount, \$31.96M, is greater than the infringer's maximum amount, \$23.97M. There will be no settlement with an injunction and no license because the infringer's cost of a certain injunction, \$23.5M, plus its expected damages for the past, \$8.46M, is, \$31.96M, and this amount greatly exceeds the expected cost of litigation, \$23.97M.

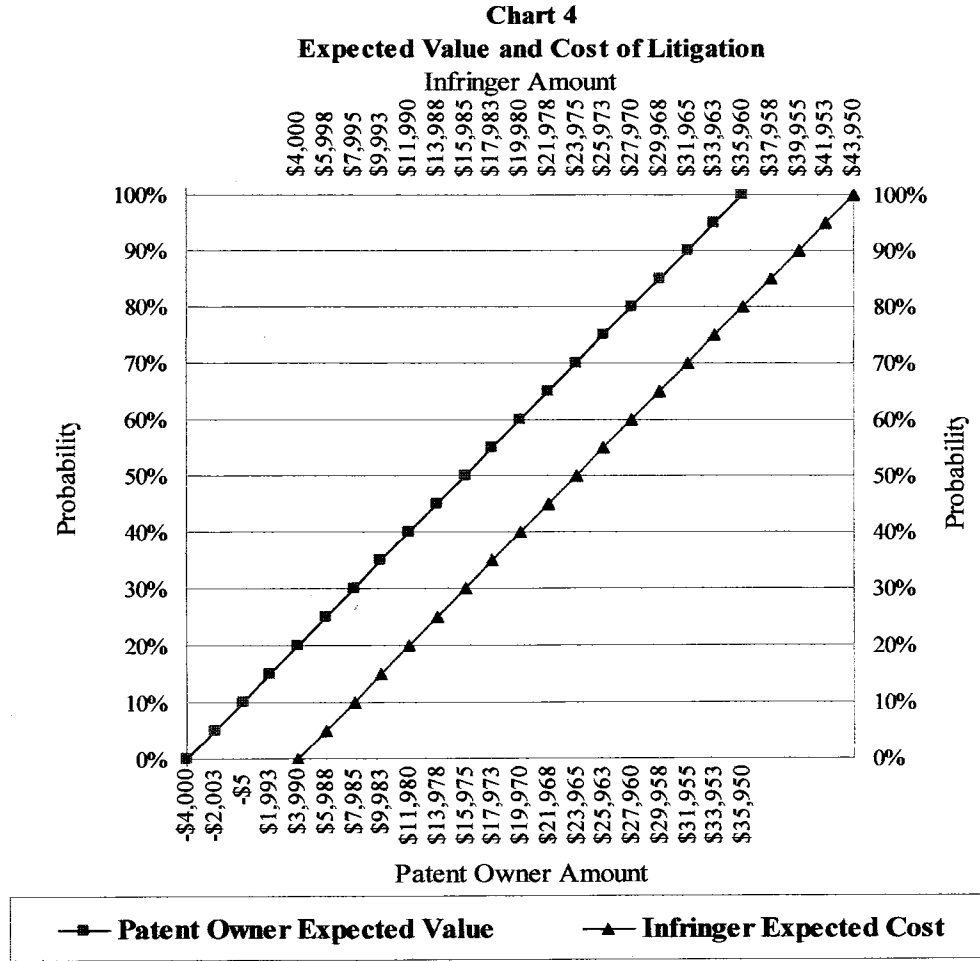
Suppose instead that each party expects litigation costs of \$4M. Again ignoring prejudgment interest, settlement is now possible, though the settlement range is razor thin. Combined litigation costs of \$8 million converted an action that would not be settled into one that might. Chart 3 shows the change.

**Chart 3 - SETTLEMENT RANGE IN TOTAL DOLLARS
BASED ON EXPECTED VALUES AND COSTS - SUMMARY (2005-19)**



Another way to assess settlement prospects is to look at each party's expected value and cost of litigation given the patent owner's possible views on the probability it would win and the infringer's possible views on the probability it would lose.

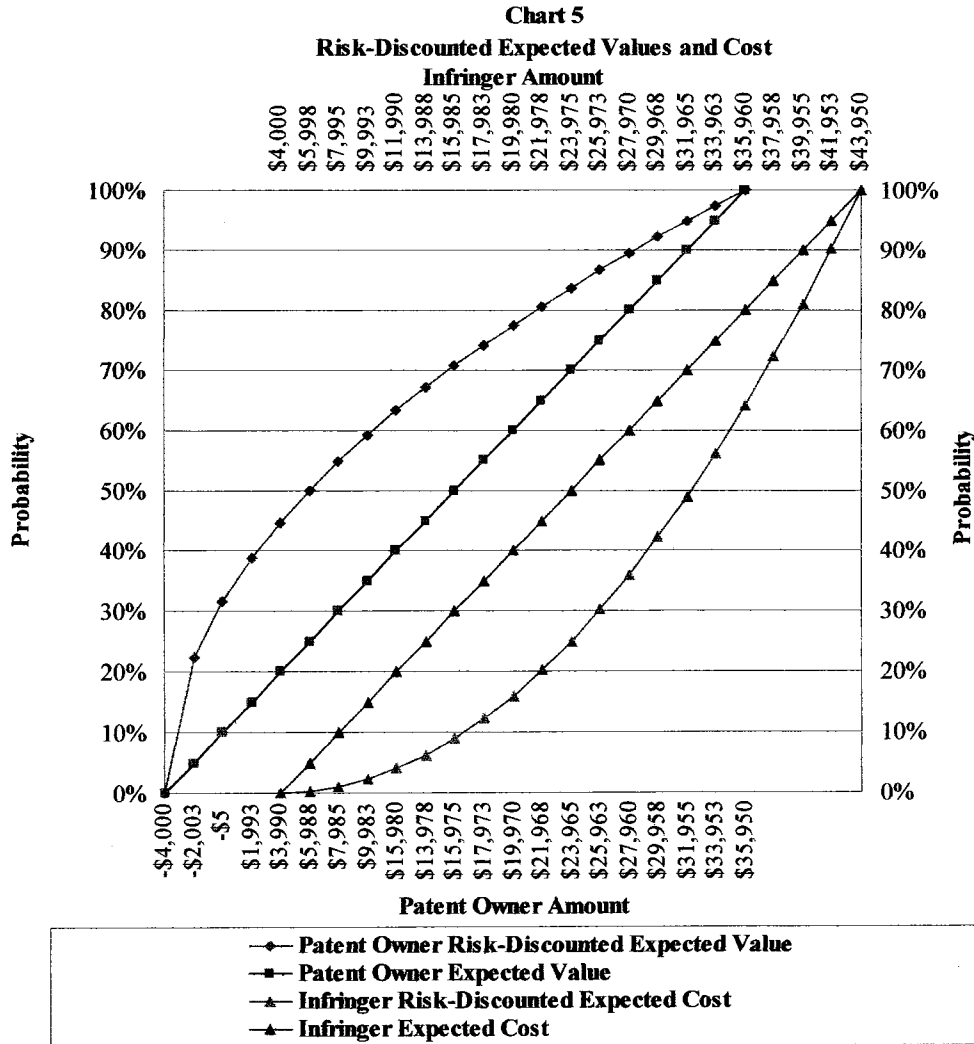
Chart 4 below shows for each probability of winning the patent owner's corresponding expected value of litigation (and minimum settlement amount) on the bottom axis and the infringer's expected cost of litigation (and maximum settlement amount) along the top. For each patent owner estimate of its probability of winning, the patent owner will settle for any amount larger than the corresponding point on its expected value line. For each infringer's estimate of its probability of losing, the infringer will settle for any amount less than the corresponding point on its expected cost line. In this situation, the patent owner's expected value of litigation and the infringer's expected cost are different solely due to the \$4 million in litigation costs for each party.



This type of chart may be modified to show the effects of risk aversion, risk preference, or risk neutrality. Assume the same degree of risk aversion for both parties. Chart 5 contains curved lines that assume each party is risk averse. The shape of those curves is based merely on mathematics, and not on empirical or theoretical measures of the effects of risk aversion. Those curves show only the general direction and nature of the effects. For each probability that the patent owner will win, the patent owner will settle for any amount to the right of the corresponding point on the Patent Owner Risk-

Discounted Expected Value curve. For the same probability, the infringer will settle for any amount to the left of the Infringer Risk-Discounted Expected Cost curve.

The risk-discounted expected value of the action to the patent owner believing it has an 80 percent chance of winning is about \$21,960 (considerably less than its \$27,960 expected value) and the infringer's risk-discounted expected cost is \$34,960 (more than its expected cost of \$27,970 given its view that it has a 60 percent chance of losing). The combined effects of litigation costs and risk aversion convert an action that would not settled into one that should.



With litigation costs of this size and with risk aversion of this degree, settlement is possible with or without a license, as shown in Chart 6. Settlement with a license may be mutually beneficial over a wide range of payment terms. Settlement without a license is even possible. Litigation costs and risk overcome the 20 percent difference in probability estimates. If the risk curves even comes close to approximating reality for

some people and companies, the combination of litigation costs and risk-aversion may permit settlement even when the parties have very different views on the merits of the action. In this example, settlement may be possible even when the patent owner believes it has a 70 percent probability of winning and the infringer thinks it has only a 20 percent chance of losing.

