

**An example of the effect that different preferences for Type I and Type II errors have on decisions.**

(This example is based on an article that appeared in *The Economist*, December 15th 2001 edition that quotes Stuart Gilson, a Professor at Harvard Business School).

The legal procedures employed against insolvent companies are remarkably different in Europe and America. In America, firms can file for bankruptcy under the “Chapter 11” law. Under this regime, a company in financial distress is protected from its creditors by suspending payments temporarily, so that the company can have time to renegotiate its debt, reestablish inflow of cash or contract fresh financing. This is not possible in most European countries, where managers are held liable for insolvency and face criminal prosecution. The ownership and administration of these companies can even be handed to the debt holders.

How does this reflect the choices for the probabilities of committing Type I or Type II errors? Let the null hypothesis be that the firm is potentially solvent, if given enough time and negotiating room to arrange alternative financing.

The objective of a “Chapter 11” law can be stated as one of requiring a low probability that a temporarily insolvent, but ultimately solvent, firm company is liquidated to serve its debts. Type I error consists of rejecting bankruptcy protection given that this company could be solvent, and thus incorrectly liquidating it. If the court perceived cost of incorrect liquidation were much higher than that from committing Type II error, i.e., protecting from liquidation a company that has no viable way of refinancing its debt, which therefore *should* be liquidated, a “Chapter 11” procedure is a way of implementing the trade off between the two errors. Chapter 11 serves as a device that enables the court to lower the probability of a Type I error at the expense of increasing the probability of a Type II error.

But some European Courts (for example, those of France, England and Germany), give more weight to needs of creditors than their American counterparts. Their presumed rationale is similar to that above, but the difference in procedure is driven by the European courts assessment of the relative costs for each inference error. The European systems presumably agree that it is more costly to allow an insolvent firm to continue operating than to have a solvent firm be liquidated. Thus, if the perceived costs of Type II error are much greater than those for Type I, a mechanism is needed that will ensure that the probability Type II error is low relative to that for Type I. This is achieved by ensuring that the firm is swiftly liquidated and the proceeds distributed to the creditors.

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