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Analysis and Valuation of Closely Held Firms Involved in Business Damage Cases and Application of Certainty Equivalence

Introduction

The purpose of this paper is to explore the theoretical structure that underlies the estimation process for business damage cases involving closely held firms. Current calculation methods generally rely on predictions of cash flow and discount rates, tasks that may be quite complex when applied to closely held firms. This paper offers critiques of damage assessment methods that appear in the current literature and applies a certainty equivalent method to a closely held firm damage study that is conceptually simple, theoretically correct and fair to all parties.

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Economic experts usually are employed, whether by the plaintiff(s) or the defense, in order to measure the economic damages and produce an independent damage report. Ideally, the report and/or expert testimony provides the court or other arbitrator with an unbiased opinion regarding the facts and financial information presented so that an informed ruling or decision can be made. Cases such as those involving divorce, sale or even dissolution usually require the expert to derive the value of the closely held firm *as is*. However, cases involving damage analysis often require more stringent assumptions and greater computational effort than other types of valuation tasks since these proceedings require an expert to determine both the value of the firm *as is* and the value *but for* the damage action. In such cases, the value of the firm is first estimated as though the event that adversely affected the business did not happen. This valuation is compared to a second valuation of the damaged firm to determine the economic loss suffered.

Some forensic economists measure and report lost profits to quantify damages. However, most introductory financial management textbooks assert the value of any firm is a function of its financial structure, its expected cash flows and the riskiness of those cash flows (*see*, among many others, Weston and Copeland 1992). Theoretically, a firm has been damaged by the occurrence of an event if its value is less than if the event had not happened. The lower value could be the result of not only smaller expected cash flows but also changes in risk or the underlying financial structure of the firm. Thus, it is generally preferable to view business damages in the broader context of the decline in long-term firm value rather than the more limited short-term concept of lost profits.

Theory of Business Impairment

A variety of events and actions can cause business damages and eventually result in litigation. In theory, the value of any business or investment depends on the future benefits that will accrue to the owner(s) over time. In the case of closely held businesses, these future benefits are best measured as the value of the net expected aftertax cash flows available to the owner(s). In situations where an award for damages constitutes a taxable receipt, firm value should be determined using pretax cash flows in order to fairly compensate the recipient. All estimated cash inflows and outflows must be discounted to present value at an appropriate rate of return which reflects the

relative riskiness of the cash flows, as well as the required rate of return to the stakeholders of the business.

Cash flows in damage cases are typically estimated under two basic scenarios. First, the sales, expenses, profits and other cash flows of the firm may be estimated under the assumption that the firm had not suffered any damages. Second, firm cash flows are estimated under the assumption of its present operations, that is, its expected future operating performance. The difference between the two estimates is the theoretical loss (L). The equations below illustrate a model for the valuation problem for damage cases:

$$L = V_B - V_C \quad (1)$$

where:

$$V_B = \sum CF_{Bt} / (1 + k)^t \quad (2)$$

$$V_C = \sum CF_{Ct} / (1 + k)^t \quad (3)$$

and

V_B = value of the firm before it suffered damages (i.e., undamaged),

V_C = value of the firm given its current economic condition (i.e., damaged),

CF_{Bt} = estimated firm cash flow for year t had it not suffered damages,

CF_{Ct} = estimated firm cash flow for year t given its current economic condition, and

k = the cost of capital.

If the damages caused the firm to have lower cash flows than in the past, then these lost cash flows should also be included as part of the total loss. Theoretically, these lost cash flows should be compounded and calculated as a future value at the time of settlement. This compound rate would be the opportunity cost of funds for the business, as this is the rate the firm could have made on investments had there been no damage. However, some states have laws governing prejudgement interest. In situations where experts may derive interest rates, most forensic economists employ a required rate of return as the cost of capital due to the relative difficulty in

determining opportunity costs.

Differences in Valuation of Closely Held Businesses and Publicly Traded Firms

Differences between closely held firms and publicly traded corporations influence valuation methodology. For example, publicly held firms are required to have their financial statements annually audited by certified public accountants, and these statements also are made available to the public. Closely held firms do not have this requirement. Since financial statements are commonly used in determining expected cash flows and value, an expert may have to review unaudited financial statements of closely held firms with greater caution. Another key difference in publicly held versus closely held firms has to do with the reality that the cash flows available to owners of closely held firms typically encompass more than mere declared dividends. Such additional flows include salary or other direct and indirect compensation or perquisites, as well as benefits that may accrue from control over depreciation or similar non-cash expense recognition, among various other types of accounting and/or tax benefits.

The determination of an appropriate discount rate to be used in estimating the present value of the cash flow stream is an integral part of the valuation process. This discount rate is the required rate of return for the primary stakeholders of the firm. For any firm, this would be the weighted average cost of capital, which is estimated from the marginal aftertax costs of debt, preferred stock, and common stock. The cost of capital for a publicly traded firm is the result of arms-length transactions that are empirically observable. These financial transactions are required to be disclosed as public information, whereas closely held firms are under no such obligation. Thus, derivation of an appropriate cost of capital measure is much more difficult for closely held firms than for publicly traded firms.

The components of the applicable cost of capital also differ by type of ownership. First, the cost of debt financing for a closely held firm is usually different (higher) than for a comparable publicly held firm. Closely held firms generally must rely on trade credit and loans or lines of credit from owners and financial institutions such as commercial banks, whereas publicly traded companies may issue more cost effective corporate bonds as well. Second, the costs of equity also differ for publicly held and closely held firms. For example,

investments in publicly held firms generally impose less liquidity risk to owners than do closely held firms. The relative marketability or ease with which an owner may sell his or her stake in a firm impacts the cost of equity, required returns, and valuation. All things being equal, an interest in a business is worth more if it is readily marketable. Interests in closely held businesses are not liquid relative to most other investments. In valuation cases of closely held firms, both the Internal Revenue Service (*see*, in particular, Revenue Ruling 59-60) and the courts have consistently recognized that a higher discount rate should be applied to account for the lack of marketability.

An important, related issue pertains to the degree of control the ownership interest in the firm represents. The issue of control is often of prime concern in valuations of small or closely held firms because the trade of any portion of the stock of such firms may comprise a significant, though noncontrolling, interest in contrast to that of publicly traded firms. All things being equal, an interest in a business may be worth more if it represents a controlling (majority) interest. Contrary to any fiduciary duty majority owners may owe, holders of a minority interest may be unjustly subjected to policies or practices that may limit the value of their minority position (e.g., excessive salary or compensation for majority owner/managers), and jurisdictions differ in the establishment of rights, privileges and protections afforded minority interest holders. The increase in discount rate attributable to the lack of marketability, in conjunction with the compound problem associated with a minority interest, may be a most difficult issue to resolve.

Differences in equity cost and required returns also may result from portfolio effects that stem from the investment holdings of firm owners. Publicly traded firms are generally owned by investors whose loss is limited to the market value of the shares held. Investors holding well diversified portfolios face a lower level of total risk, and variability in returns, because such diversification reduces the relative impact of company-specific (i.e., unsystematic) risk in their total portfolio of investments. By contrast, owners of closely held firms may be quite poorly diversified, as the bulk of their personal wealth, effort and self-worth may be tied up in their firm. The primary risk facing owners of such firms is the relative variability in returns for that individual firm, with no commensurate total portfolio reduction in unsystematic risk. Therefore, owners of closely held firms often bear greater total risk and may have higher potential return expectations

than owners of publicly held firms. However, some of these increased expectations may be more easily satisfied by benefits that may be considered somewhat noneconomic in nature (e.g., need for prestige or community standing, among others).

Further compounding each of the above situations is the well-documented problem of agency costs (*see* Jensen and Meckling 1976, et seq), wherein firm managers act in their own economic self interest to the detriment of stockholder/owners. Fortunately, owners of closely held firms typically may be expected to suffer lower agency costs since those owners often hold key managerial or control positions in those firms, thereby mitigating this potential conflict of interest. However, to the extent owners do not completely manage or control their own interests, agency costs necessarily exist and will adversely impact their required, expected and actual returns.

Methods of Valuing Closely Held Firms

There are many approaches in the financial literature to valuing closely held firms. This section explains the underlying framework of the more popular approaches, as well as relative advantages and disadvantages of each. *Ex post* methods that employ historical data as measures of valuation are discussed, as are forward looking approaches that apply *ex ante* attempts to measure earning power by estimating relevant cash flow over the life of the firm.

Asset-Based Measures

The accounting net worth of a firm is one of the simplest asset-based valuation measures. Synonyms and closely related asset-based measures, depending upon sometimes minor variations in the base calculation, are referred to as "book value," "adjusted book value," "net asset value," and even "liquidation value" or "replacement value," and similar terminology. Such asset-based measures typically may be obtained from routine financial statements prepared by/for most firms. However, in situations not involving actual liquidation or dissolution of a firm, asset-based measures generally are of little utility to those parties interested in the true valuation of a *going concern*. This is because asset-based measures essentially reflect sunken costs that have little or no bearing on future decisions and/or cash flows and may themselves be clouded by various accounting policies geared toward conflicting goals, such as minimizing tax liability rather than long-term

maximization of shareholder wealth. Experts thus tend to ignore or downplay accounting net worth, book value and related asset-based measures in nonliquidation type settings in order to concentrate on more appropriate and theoretically sound valuation approaches for going concerns.

Earnings-Based Measures

To recognize the value of a going concern, subjective valuation methods based on objective historic and current facts must be employed. A business not being liquidated should be valued under the assumption that the owners will employ all available firm assets (both tangible and intangible) to generate future benefits. Earnings (i.e., revenues less costs) result from the products or services of the firm being accepted in the competitive marketplace.

The *capitalization of earnings* method is a common approach to estimating firm value and business damages. In general, earnings-based models compute value as the applicable earnings measure divided by an appropriate capitalization rate. Only one earnings figure (i.e., earnings capacity) need be capitalized. In the case of corporations, earnings are estimated as a perpetuity because, unlike proprietorships and partnerships, corporations are assumed to have infinite life. For damages cases, earnings capacity is determined for the firm as is, and as if it had not been damaged. Earnings capacity may be estimated using either the latest income statement, an average of past periods, or even a projected figure.

Depending upon the facts of the case, the appropriate measure of earnings may be net income (profits), earnings before interest and tax (EBIT), dividends declared or some other relevant figure. Historical financial statements, business plans and company prepared *pro forma* statements often are available to assist the expert. Sales volume, costs of operations, overhead expenses, materials, and other factors all may be estimated in determining the appropriate earnings base. Economic conditions, business trends, competitive actions, and various external and internal influences also may be factored into the component estimates.

The primary advantages of earnings based methods are simplicity and conceptualization. These models offer the appeal of logic to courts and nonexperts because they are derived from actual, albeit historic, data – recognizing that past performance does not guarantee

the future. The major problems associated with pure earnings-based methods involve accounting for depreciation, extraordinary items and various nonoperating expenses, as well as adjusted valuation of expected operating losses. Another concern stems from the use of historical financial statements to determine expected earnings. Judicious choice among generally accepted accounting principles (GAAP) can result in the presentation of widely varying income statement figures for the same firm at the same time period. For example, during periods of inflation the use of last-in-first-out (LIFO) over first-in-first-out (FIFO) to value inventory will result in a relatively higher value of cost of goods sold (CGS), lower gross profits and, ultimately, lower firm value. Of additional concern is how to estimate a growth rate in the case where firm profits are expected to grow, but the anticipated growth requires additional investment capital (i.e., when internal funds are not sufficient to finance the necessary investment).

The use of discounted cash flow (DCF) as the basis for measuring earning power is recommended by most financial economists and all popular textbooks to overcome many of the shortcomings of pure earnings-based measures (e.g., Gitman, 1994; Weston and Copeland 1992; Pratt, et al. 1996). The lifeblood of any firm is cash flow, as cash is used to support all aspects of firm operation and growth. Advantages of the DCF model variant include the fact that net cash flow is relatively absolute and thus less susceptible to manipulation under GAAP. Further, unlike the capitalization of earnings model, should a firm require additional capital to maintain growth, the DCF model explicitly recognizes the temporal nature of these flows. A disadvantage of the cash flow method is that courts and inexperienced business persons often have difficulty distinguishing cash flows, net income, and dividends on a per share basis.

Market Comparable Measures

A hallmark of well-developed financial securities markets is that publicly-traded stocks have been fairly valued in the competitive marketplace by willing buyers and sellers under no compulsion to act, each having reasonable knowledge of all the relevant facts. This concept of *fair market value* is the most widely accepted basis for valuation in both academic and legal environments (*see O'Malley v. Ames*, 197 F.2d 256, 257 [8th cir. 1952]). Unfortunately, in the case of small or closely held firms, the absence of publicly traded stock is

the rule rather than the exception.

The essential difficulty in applying a market comparable approach is identifying which publicly traded firm(s), if any, can rationally and reasonably be considered "comparable." Ideally, a true market comparable would be a public firm of similar size (e.g., asset and revenue bases, market share and segmentation), risk, organizational structure, management style, distribution system and geographic scope, offering similar products and/or services with similar financial and operating ratios and historical growth pattern. Experts also may employ industry averages of publicly held firms as the comparable base, however each firm has its own unique problems, competitive advantages and potential growth opportunities. Where industry averages are used, the expert may be overlooking the unique characteristics of the closely held firm.

The price/earnings (P/E) ratio is a widely used two-variable market comparable model. To apply this method, an assumed P/E multiple is applied to a historical or projected earnings figure. The model is simple to apply and is intuitively pleasing, because it casts the value of the firm as a function of earnings as above. In addition, the P/E multiple approach has the appeal of being determined by market forces (i.e., based upon independent arms-length transactions). The process is similar to the use of comparative sales in real estate appraisal. If a sufficiently similar publicly traded firm (or firms) can be identified, then the value of the privately held firm should be its earnings weighted by the corresponding P/E multiple. Private sources may also provide information that may or may not be useful to an expert in identifying sufficiently comparable firms or market transactions (e.g., *Bizcomps*, *Pratt's Stats*).

The Certainty Equivalent Cash Flow Approach

With any loss estimation model, unknown factors must be quantified to derive value. For example, under an EBIT capitalization approach, operating income projections must be prepared and a capitalization rate representing the appropriate required rate of return must be estimated. With all cash flow models, both the cash flows and the discount rate must be estimated from limited information. Under the P/E multiple and asset-based value approaches, an estimate for at least some part of each model is required. In all cases, uncertainty exists in the variables being estimated. When parameters of a system

are estimated from limited information, the resulting expected level of error is always nonzero.

To help overcome problems associated with uncertainty, the certainty equivalent (CE) technique has been used extensively in the finance literature for applications such as capital budgeting (e.g., Roll and Bogue 1974; Myers and Turnbull 1977; Sick 1987). Yet, an extensive review of the literature revealed no applications of the CE approach to the valuation of closely-held firms, though this method is theoretically sound and offers practical solutions to many of the problem areas identified earlier in this paper. The major advantages of the CE technique are that it does not require explicit consideration of unknown cash flows, and the discount rate is measured by observation of an actual risk-free rate (e.g., Treasury securities). Yet because a certainty equivalent is that value that would make an informed decision maker indifferent between two potential outcomes (one certain – one uncertain), the primary disadvantage of the CE approach is that insight, which may be difficult to observe, into the risk preferences of the decision maker is required. A qualified expert, however, would be in a position to ascertain differences in the risk preferences of firm owners and thereby render an opinion, especially in the case of small or closely held firms where market comparables may not be available.

Traditional loss estimation models require the expert to estimate all cash flows, including risky ones, and then determine a required rate of return that takes into account the risk level of the cash flows. Risk-adjusted rates lump together the pure time value of money as represented by the risk-free rate plus the risk premium. Traditional models inherently assign more risk to cash flows that occur in the future, and the farther into the future these flows occur, the higher the implied risk. In contrast, the certainty equivalent approach separates risk and time value of money. This separation makes the CE approach a more theoretically correct method because including time value of money with the risk premium compounds the risk premium over time (see Robichek and Myers 1966). The CE model assigns risk to each cash flow individually and does not imply any assumptions concerning risk and time. Therefore, the CE approach does not compound the effect of the risk premium over time.

To calculate business damages using the CE method, each expected uncertain cash flow estimate is converted to a value that the business owner would accept with certainty in lieu of the risky flow. The owner would thus be indifferent to receiving either the risky flow

or the certain flow. Certainty in the cash flows allows the risk-free rate to serve as the appropriate discount rate. The only subjective aspect of the CE methodology relates to the identification and assignment of certainty cash flows or certainty factors, which experts may determine after careful review of all the facts of the case. The difference (or loss, L) between the value of the firm as is (V_C) and as it would be if it had not been damaged (V_B) again is determined as in equation (1) above, but the component valuation estimates instead would be determined as:

$$V_B = \sum (a_{Bt})CF_{Bt} / (1 + R_f)^t \quad (4)$$

and

$$V_C = \sum (a_{Ct})CF_{Ct} / (1 + R_f)^t \quad (5)$$

where,

a_{Bt} = certainty equivalent factor in year t for the undamaged firm ($0 \leq a_{Bt} \leq 1$),

CF_{Bt} = estimated cash flow in year t ,

a_{Ct} = certainty equivalent factor in year t for the firm given its actual current economic condition ($0 \leq a_{Ct} \leq 1$), and

R_f = the risk-free rate (e.g., Treasury bond yields with the maturity of t).

The CE method as proposed here requires neither explicit estimation nor speculation regarding growth in earnings or cost of capital components. The CE approach reduces the inherent complexity introduced by the effects of business cycles and changes in technology, consumer tastes or economic dynamics, among many other potential sources. This reduced complexity is consistent with judicial requests voiced in decisions involving personal injury cases (see, for example, *Culver v. Slater Boat Co.* 688 F.2d 280 [5th Cir., 1982] en banc).

Illustrative Case

A simple example can serve to underscore the potential utility of the CE method in the valuation of closely held firms involved in

damage cases. Assume Jones Business Company (JBC) was a frequent purchaser of components produced by a regular supplier, Smith & Associates. Assume Smith changed specifications without informing Jones, thereby allowing JBC to unknowingly purchase parts that did not perform as expected. Before the substitution is discovered, JBC sells equipment containing the inappropriate parts to its customers. After discovering the problem, JBC decides that in order to reasonably protect its interests, it must recall all the defective equipment and incur significant costs in the process. Since JBC was not made aware of the specification change, JBC may allege breach of contract, negligence or even fraud, resulting in damage to its reputation and loss of future sales income.

Assume that prior to the damages, JBC had prepared proforma statements forecasting firm expected net cash flows as listed in table 1 for the next five years. An expert would utilize that forecast, and make an assessment of risk to derive certainty equivalent factor values for the different cash flows based on the level of risk and likelihood that the cash flows would actually occur. The expert would evaluate general business conditions and industry or market factors, as well as firm-specific factors such as the variability in sales, profits and cash flows (and any associated tax effects) to determine the riskiness of the cash flows, the risk preferences of the owners and the resultant certainty equivalent factors. Certainty equivalent cash flows are then found by weighting the expected net cash flows by the applicable certainty factor. For example, table 1 indicates the business owner would be indifferent between the uncertain cash flow of \$275,000 (even with very low associated risk) and a certain cash flow of \$247,500 in year 1. In year 5, the \$350,000 net expected cash flow has more associated risk, so the business owner would consider a future certain amount of \$210,000 to be equivalent.

The resultant certainty cash flows are then discounted to present value at an applicable risk-free rate (i.e., the current yield on Treasuries of similar maturity: 5% in this example). Thus, the certainty equivalent net present value of the anticipated cash flows to JBC here would be \$1,015,688, had there been no damages. Again, the advantage of deriving certainty equivalent values for each individual cash flow is that risk and the time value of money can be separated in a more theoretically correct manner so that the risk premium is not compounded over time.

**Table 1. Five Year Certainty Equivalent Net Present Value of JBC
(without Business Damages)**

Year	Expected Net Cash Flows	Degree of Risk	Certainty Equivalent Factor	Certainty Equivalent Cash Flow	Risk-Free Present Value Factor (5%)	Certainty Equivalent Value
1	\$275,000	Very Low	.9	\$247,500	.952	\$235,714
2	295,000	Low	.8	265,500	.907	240,816
3	310,000	Moderate	.7	217,000	.864	187,453
4	325,000	Moderate	.7	227,500	.823	187,165
5	350,000	Average	.6	210,000	.784	<u>164,540</u>
Total:						<u>\$1,015,688</u>

Now consider the case after JBC recognized that it experienced damages and economic loss. The company retained counsel to file legal proceedings to establish the facts regarding whether the damages did occur, and counsel has employed our economic expert to estimate the actual amount of damages. The expert, again after thorough study and review of the facts, determines that the cash flow risk level has changed and the certainty equivalent coefficients must be adjusted to reflect the recall and the impact of the damage to JBC's reputation. The expert further concludes that JBC will be able to fully recover after five years and return to its previous state before the damages. That is, prior (i.e., without damage) and current (i.e., with damages) predicted sales paths are likely to converge, thereby resulting in zero lost sales, and thus zero lost profits and cash flow, by year five (*see figure 1*). After careful review of all of the relevant economic facts of the case, the expert identifies the new level and risk tolerance for each cash flow and determines new certainty equivalent values for the expected cash flows as presented in table 2.

The resulting certainty equivalent net present value of the cash flows of the damaged firm is only \$564,755. Thus, the economic damages to JBC in this situation is the difference between the two certainty equivalent net present values, or \$450,933. In this case, that amount represents the reduction in firm value attributable to the conduct of the tortfeasor, without compounding the risk premium.

Figure 1.

Convergence of Certainty Equivalents

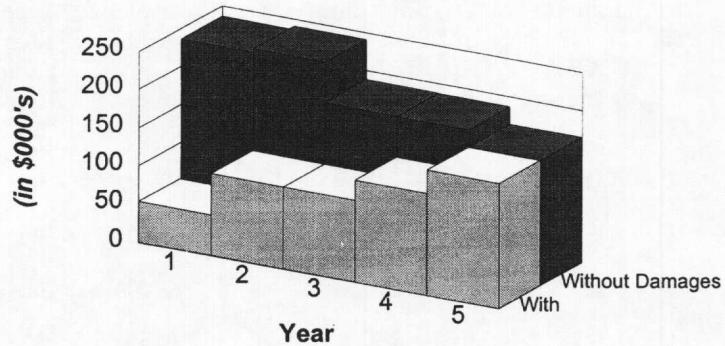


Table 2. Five Year Certainty Equivalent Net Present Value of JBC (with Business Damages)

Year	Expected Net Cash Flows	Degree of Risk	Certainty Equivalent Factor	Certainty Equivalent Cash Flow	Risk-Free Present Value Factor (5%)	Certainty Equivalent Value
1	\$275,000	Very High	.2	\$55,000	.952	\$52,381
2	295,000	High	.4	118,000	.907	107,029
3	310,000	High	.4	124,000	.864	107,116
4	325,000	Average	.5	162,500	.823	133,689
5	350,000	Average	.6	210,000	.784	<u>164,540</u>
Total:						<u><u>\$564,755</u></u>

Conclusion

The CE method as presented offers a potentially powerful method of loss estimation in damage cases involving closely held firms that can complement traditional risk-adjusted discount models. A major

advantage of the CE approach is its conceptual simplicity and relative ease of explanation to a judge, jury or other finder of fact. The CE method clearly differentiates the independent effects of risk and time, and thus does not compound the effects of a risk premium over time as risk-adjusted discount models do. Further, at least in the case of closely held firms, the CE method may be more theoretically correct as it is less susceptible to potential agency-related cost components embedded in risk-adjusted discount rates, as well as more capable of identifying and accommodating the risk preferences of owner/managers (e.g., including tax effects and/or other related advantages of debt). The CE method can complement or replace risk-adjusted discount models where appropriate because both approaches yield identical results under ideal conditions.

This paper has contributed to the practice of loss estimation by demonstrating the construction of an efficient and theoretically sound model that can be used to accurately determine the value of cash flows in closely held firms involved in damage litigation. The underlying framework of currently employed valuation techniques was presented, and the explicit reliance of these techniques on various assumption and speculation based estimation procedures was highlighted. The application of these techniques to closely held firms was shown to be more difficult and uncertain relative to cases involving publicly traded firms.

The certainty equivalent (CE) approach, a variation of well established standard capital budgeting procedures based on a known risk-free discount rate, was suggested as an alternative to evaluating the cash flows vital to the proper valuation of closely held firms. The CE method was shown to be practical, theoretically simple in concept and able to reduce the complexity inherent to the valuation process for business damage cases involving short-term subnormal cash flow interruptions. However, the CE method is highly logical and readily adaptable to longer term capitalization of damages in closely held firms.

References

- Bogue, Marcus C. and Richard Roll. 1974. "Capital Budgeting of Risky Projects with Imperfect Markets for Physical Capital." *Journal of Finance* 29 (May): 601-13.
- Boudreaux, Denis, Bruce Payne, Philip A. Boudreaux and Phillip Fuller. 1996. "A Review of Appraisal Techniques for Closely Held Companies Involved in Damage Litigation." *Journal of Accounting and Financial Research* 2(2)(Spring): 75-82.
- Boudreaux, Philip A. 1995. "Culver II and the Below-Market Discount Rate: A Case for Judicial Review." *Journal of Business and Economic Perspectives* 21(Spring): 20-25.
- Gitman, Lawrence J. 1994. *Principles of Managerial Finance*, 7th ed. New York: Harper Collins.
- Internal Revenue Service. 1959. Revenue Ruling 59-60, 1959-1, C.B. 237.
- Jensen, Michael C., and William H. Meckling. 1976. "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure." *Journal of Financial Economics* 3(October): 305-60.
- Kolaski, Kenneth M., and Mark Kuga. 1998. "Measuring Commercial Damages via Lost Profits or Loss of Business Value: Are These Measures Redundant or Distinguishable?" *Journal of Law and Commerce* 18(1)(Fall): 1-29.
- Myers, Stewart C., and Stewart M. Turnbull. 1977. "Capital Budgeting and the Capital Asset Pricing Model: Good News and Bad News." *Journal of Finance* 32(May): 321-32.
- Peterson, Renno L. 1989. "A Guide to Valuing the Closely Held Business." *The Practical Accountant* 22(April): 34-50.
- Pratt, Shannon P. 1993. *Valuing Small Businesses and Professional Practices* (2nd ed.). Homewood, IL: Business One Irwin.
- _____. 1998. *Cost of Capital: Estimation and Applications*. New York: Wiley.
- _____, Robert F. Reilly, and Robert P. Schweihs. 1996. *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, 3rd

ed. Chicago: Irwin Professional Publishing.

Robichek, Alexander A., and Stewart C. Myers. 1966. "Conceptual Problems in the Use of Risk-Adjusted Discount Rates." *Journal of Finance* 21(December): 727-30.

Sick, Gordon A. 1987. "Multiperiod Risky Project Valuation: A Mean Covariance Certainty Equivalent Approach." in C.F. Lee, ed., *Advances in Financial Planning and Forecasting*. Greenwich, CT: JAI Press.

Van Horn, James C. 1995. *Financial Management and Policy*, 10th ed. Englewood Cliffs, NJ: Prentice Hall.

Weston, J. Fred, and Thomas E. Copeland. 1992. *Managerial Finance*, 9th ed. Orlando: Dryden Press.

Zukin, James H., ed. 1990. *Financial Valuation: Businesses and Business Interests* (with 1998 Cumulative Index). New York: Warren Gorham & Lamont/RIA Group.