

# Directly Valuing Private Minority Interests Using the Income Approach

## “Underneath Every Discount Is an Income Approach”

Dennis Dolan, an investment banker with Nomura Securities, gave a speech at the 1998 ASA Advanced Business Valuation Conference entitled “Trading Restricted Securities.” At that time Mr. Dolan was a dealmaker in the obscure market for restricted stocks. Most of the appraisers assembled in the room probably expected him to talk about discounts. Instead, he dropped a bomb by stating that restricted stock transactions are priced based upon a future target price for the stock over an expected holding period discounted to the present at a required rate of return. “Pricing of restricted stocks is a time-weighted, probability-based, risk-factored cost of capital approach,” he said. “The investment horizon matches the Rule 144 restrictions. The required rate of return over a two-year holding period is generally in the range of 25 percent - 30 percent. Because future target price is based upon various assumptions about appreciation in the stock, the transactions usually resulted in discounts in the range of 20 percent - 25 percent.”

Mr. Dolan’s comments cast a beam of light on the fact that market discounts in the restricted stock studies are really just the tip of the iceberg and only superficially tell part of the story. In his world, discounts are essentially a result of the pricing process, not a causal factor.

For appraisers, Mr. Dolan’s beam of light has grown dim over the years as a consequence of inertia and the momentum of traditional discounts (DLOC/DLOM) that have been nurtured by companies with a vested interest in maintaining the status quo.

### THE INCOME APPROACH – A POWERFUL ALTERNATIVE

After hearing Mr. Dolan in 1998, I began to delve more deeply into how markets operate for private minority interests. Over the years, I’ve interviewed buyers of all types of secondary market investments, such as used private equity, used venture capital, used limited partnership interests, used fractional tenant-in-common interests in real property, used notes, and partial interests in used notes.

One of the most telling comments I received in this process was in an interview with one of the partners at Industry Ventures, a fund company focused on purchasing secondary market, noncontrolling interests in venture capital companies and portfolios. The owner commented: “We do these investments to make money.” This is a remarkably obvious and yet also remarkably profound statement in its implications for business appraisers.

The investments made by Industry Ventures are all characterized by lack of control (preferences offer not much more than a fig leaf for secondary market investors in a venture company going down the drain) and lack of liquidity, so are one of the closest proxies I know of to the types of private minority interests valued by many business appraisers. Yet while investments in the venture capital and private equity secondary markets are a close proxy, they are not identical to the typical investments business appraisers are asked to value, i.e., completely private, illiquid companies for which no exit can be anticipated. Rather, secondary market buyers



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invest in companies that are expecting to be sold or go public at some point in the foreseeable future. Ownership structures in the secondary markets generally also include a mixture of unrelated individuals so there can be some potential for greater marketability than in many family-owned businesses.

Although secondary market buyers review the annual 409A and 123r appraisals of their portfolio companies, and understand the discounting analysis used by appraisers, when it comes to putting their own money into a deal none of them uses discounting as a way to develop a price to pay for an investment. Instead, what investors look for is three times their money in three years, four times their money in four years, etc. It all boils

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## expert TIP

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down to a target price at which they hope to make an exit within a reasonable time frame and a required rate of return based upon the risk of the investment.

In other words, *real investors in the real world use the income approach* when pricing deals in the private market. For appraisers, one of the most obvious benefits of using the income approach is that it mirrors how the real world actually works, in contrast to the more theoretical approaches commonly employed. If you really want to figure out what a willing buyer would pay a willing seller of a private minority interest, use the income approach.

Every financial advisor and investor in a private minority interest with whom I have spoken in the last 20 years has indicated in so many words that they “do it to make money.” Their pricing procedure is based upon figuring out what it is they will get for their money and when they can expect a liquidity event. The fact that this is essentially a universal response tells me that if other appraisers do the same research, they will get the same response. The essence of the scientific process is “hypothesis, test, and replicate,” and I am confident that other researchers attempting to dig down into the “why” of discounts in any market will also find that investors are thinking in terms of interim cash flows, eventual exit, and what sort of minimum rate of return they would be willing to accept to compensate them for all the risks during the period of time when they will be illiquid.

Concerning required rate of return, investors in the illiquid private markets never use CAPM, modified CAPM, the buildup method, option pricing methods, or the implied private company pricing model. What they *do* use is a much more intuitive process based on years of experience (i.e., failure). Extensive discussion about the required rates of return for the income approach is beyond the scope of this article. I would simply point out that three times your money in three years equals a required rate of

return of around 44 percent. Between 30 percent and 50 percent would be a typical range of required rates of return in the private secondary market for individual investments. Of course, the question then arises, assuming a minority interest in a family-owned closely held business is an even more illiquid and riskier investment, should the rate of return be even greater to obtain a reasonable fair market value?

In addition to the secondary venture market, I have researched other secondary and private markets over the last two decades, including secondary markets for restricted and pre-IPO stock, secondary markets for private equity investments, publicly syndicated but not publicly traded limited partnership interests, syndicated tenant-in-common interests, and the secondary market for private notes. Here are highlights of my findings in these various private markets.

#### **SECONDARY MARKET FOR PRIVATE EQUITY**

Among other used private equity investors, in the mid-2000s I interviewed one of the partners of Venture Capital Fund of America (VCFA). VCFA aggregates used institutional-grade private equity and hedge fund investments into funds of funds, and resells interests in their “superfund” to other institutional buyers.

I reviewed details of three of their “funds of used funds” that they were marketing to institutional investors and investment advisors. At the time, VCFA priced each of their investments to yield at least a 30 percent rate of return based upon their forecasts of the target fund’s performance. At the time, buyers of secondary private equity interests were all “high cost of capital buyers,” meaning their required rates of return were not below 20 percent, but were more likely be at least 30 percent or higher.

In a follow-up interview with the owner in 2014, the secondary market has apparently become more crowded with large pension fund managers and me-too copycat funds. As of

mid-2014, the competition for deals has driven prices up and yields down. According to my contact, there are even some instances where an investment in a fund could trade at a premium to its net asset value, perhaps because the sponsor is one of the top private equity syndicators. Even with this, however, buyers price the interest based on future cash flows, residual value, and a required rate of return. If someone pays a premium for a secondary market private equity fund, this simply means that the buyer likely has a lower required rate of return for the cash flows than does the private equity sponsor!

Interestingly, the fact that VCFA was (and still apparently is) pricing each fund it invests in to yield at least 30 percent means that some acquisitions end up being purchased at premiums to their underlying value and sometimes at discounts. Occasionally, VCFA pays only *one dollar* for an interest that is valued by a fund’s General Partner at hundreds of thousands of dollars, i.e., for a discount of essentially 100 percent. Sellers are willing to sell at a 100-percent discount for a variety of reasons; they may already have received all of their original investment plus a return and just don’t want to wait until the very end to get the remaining return. Or, they may wish to avoid having to put up more capital in a capital call. Sellers may also be corporate investors for whom the investment is no longer a core focus, and who may be willing to sell for a lower return, break-even, or perhaps a loss in order to redeploy assets elsewhere. Obviously, corporate treasurers bargain to the best of their ability to maximize price, but the goal is to sell the interest, so ultimately a transaction does take place even if the best price happens to be a low price. Institutional and corporate sellers in this market tend to be realistic and to accept this fact.

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**SECONDARY LIMITED PARTNERSHIP MARKET**

In 2001 Bruce Johnson and Spencer Jeffries<sup>1</sup> conducted a study to determine the estimated annual rate of return expected by investors purchasing minority interests in the secondary market of publicly syndicated but not publicly traded real estate partnerships. Their findings showed that investors expect an annual rate of return approximating 20 percent for partnerships that make distributions and 25 percent for non-distributing partnership. (The difference is presumably down to the lower risk of current returns from distributing partnerships.) That the investors think in terms of a required rate of return of 20 percent or 25 percent tells us that they have made their own forecast of future cash flows and residual value and performed a discounted cash flow analysis.

Across the board, Johnson and Jeffries found that the required rate of return is consistent, whether a partnership is due to liquidate in one year or five. So, for a non-distributing partnership growing at 7 percent per year, and that is due to liquidate in one year, if the required rate of return is 25 percent the discount from NAV would be approximately 14 percent. If the same partnership expected to liquidate in five years, the discount from NAV would be approximately 54 percent. In either case the rate of return to the investor is 25 percent per year. This illustrates the connection between the market approach and the income approach in valuing private minority interests.

**SYNDICATED TENANTS-IN-COMMON**

In the early- to mid-2000s syndicated investment-grade, income-producing properties in the form of tenants-in-common came into vogue. The idea was to use these vehicles for property sellers wishing to take advantage of 1031 tax-free exchanges and defer capital gains, while gaining access to a much larger—and presumably more

stable—asset class. These TIC investments, while not necessarily “used” or purchased on the secondary market, were still real estate-like vehicles and investors purchased these illiquid, non-controlling interests based on a required rate of return. During the TIC heyday we interviewed some of the top syndicators and brokers in this market. We also reviewed prospectuses and the associated TIC agreements for several syndicated acquisition projects. We found that investors in these deals generally expected to receive current yields (current distributions/price) between 6 percent and 10 percent, with overall long-term total returns from 12 percent to 20 percent. These rates of return were property-specific (i.e., a function of risk) and therefore were variable from one deal to the next. These types of investments began falling out of favor in 2007/2008; the real property meltdown from 2008 – 2010 essentially killed this type of investment vehicle.

**NOTES**

The secondary debt markets are wide and deep, with various obscure backwaters. There is a ready market for many private notes, with the number of buyers diminishing rapidly for unsecured notes or partial interests in notes. Prices for notes in the secondary market are dependent on the prospect of future cash flows and their risk. In the course of valuing a wide variety of notes, I have worked with many investors and brokers of notes. The

required rates of return for notes being sold in the secondary market have varied from 8 percent for well-secured first deeds of trust on single-family houses with creditworthy borrowers and a short remaining life, to completely unsalable instruments with an infinite required rate of return (think unsecured notes from Mafiosi).

**HOW THE INCOME APPROACH INTERACTS WITH DISCOUNTS**

As we’ve seen, virtually every discount in the market has embedded in it an expected holding period and a required rate of return. Discounts for lack of marketability based on restricted stock studies are no different, which is why discounts for lack of marketability have been getting smaller and smaller as the required holding period under Rule 144 has become shorter and shorter over the years.

Reflecting back on the comments of Mr. Dolan, simple math can be used to develop a deeper insight into the relationship between restricted stock discounts, required rates of return, and required holding periods. The basic financial truth that a dollar today is worth more than a dollar next year or a dollar in 10 years is a tool that allows us to construct a matrix illustrating this relationship.

For example, if we believe an asset will likely appreciate in value by 5 percent per year, and if we estimate a range of required holding periods (required holding period is the essence

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**DISCOUNT ANALYSIS - ROR vs. Holding Period\***

**RROR	Holding period (years)						
	0	5	10	15	20	25	30
10%	0.0%	20.8%	37.2%	50.2%	60.6%	68.7%	75.2%
15%	0.0%	36.5%	59.7%	74.5%	83.8%	89.7%	93.5%
20%	0.0%	48.7%	73.7%	86.5%	93.1%	96.5%	98.2%
25%	0.0%	58.2%	82.5%	92.7%	96.9%	98.7%	99.5%
30%	0.0%	65.6%	88.2%	95.9%	98.6%	99.5%	99.8%

\* 5% annual growth assumed in the investment

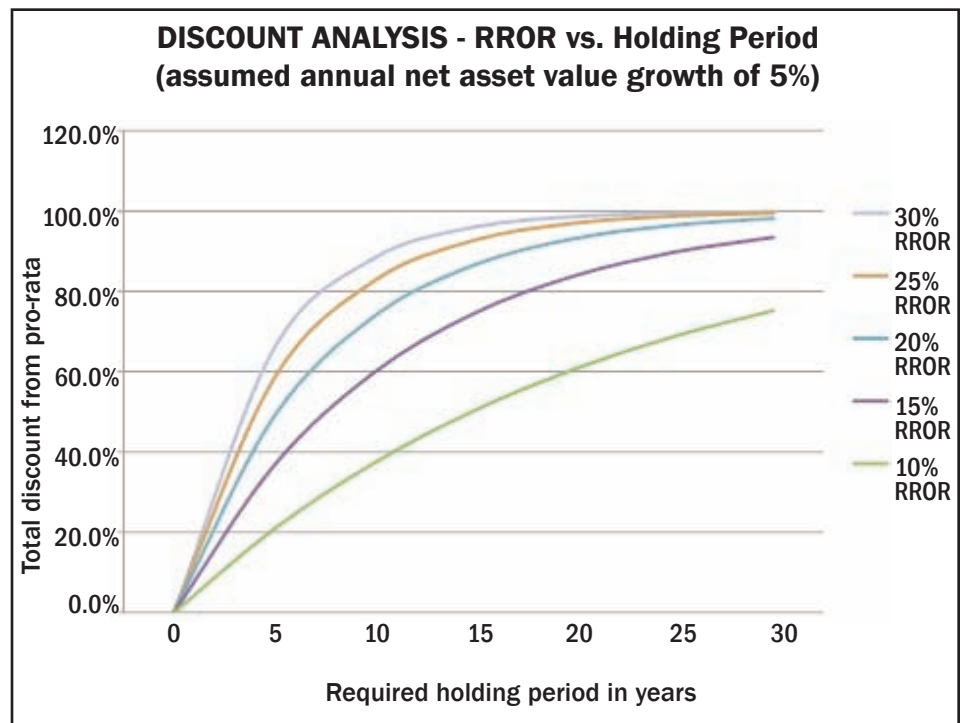
\*\* RROR = Required Rate of Return

of lack of marketability and/or lack of liquidity) and the rate of return we require given the risks, then discounts from the current value of the asset today may be calculated per the matrix on page 10.

Note that if the holding period is zero, what we own is essentially a public stock because we are not required to hold it for any length of time. This also illustrates a subtle distinction in the analysis – the *expected* holding period for you as a public investor might be one year or one decade, but your *required* holding period is less than a second. The *required* holding period for restricted stock used to be two years and is now six months. For private minority interests I have seen cases where the required holding period was essentially “until your grandchildren inherit it.” Data from the matrix above may be graphed as shown at right.

Note that the graph at right is not a matter of opinion. It’s just math. If required holding period, interim cash flows, residual value, and required rate of return were always known and agreed upon by everyone there would be no need for a business appraiser to value a private non-controlling illiquid interest. The value could be calculated by anyone.

Often a closely held, illiquid minority interest will enjoy some interim cash flow. The general partner will often distribute at least enough to cover pass-through taxes and possibly even more. Interim cash flows become an elaboration of the graph at right, bending the curves downward depending on the magnitude of the cash flow distributed relative to the value of the underlying asset. Thus, if a real property holding company owns assets that generate high distributable cash flow relative to the underlying values of the properties (for example areas of the country where income property trades at relatively high cap rates), regular and dependable distributions of cash flow prior to dissolution can dominate the valuation, reducing the overall discount. Conversely, publicly traded securities



today tend to trade at very high valuations relative to dividends, so a long-term LLC holding publicly traded securities could be far less attractive to a minority investor since interim distributions may be much lower than for an apartment LLC. As we’ve seen in recent years, future residual value for the public market might also be more volatile and the expected growth rate for the residual may be lower than for an entity owning real property. Hence, the overall “discount” for a minority interest in a publicly traded securities entity could end up being much greater than an identical interest in a real property entity. (The fact that the NAV of the publicly traded securities entity can be precisely known at the end of each day is essentially irrelevant. See the *Richmond*<sup>2</sup> case as an example of the court’s misunderstanding of this fact.)

As a general rule, reliable high cash flow to the minority owner relative to the underlying NAV reduces the discount, all other things being equal.

**SUPPORT FOR VALUING PRIVATE MINORITY INTERESTS USING THE INCOME APPROACH**

Support for the income approach in

valuing private minority interests comes from many sources:

**1. American Society of Appraisers Business Valuation Standards**

The American Society of Appraisers has a procedural guideline on the Valuation of Partial Ownership Interests (PG-2), and it focuses primarily on components comprising the income approach. Found under ASA’s *Business Valuation Standards*, PG-2 is the only in-depth guidance in existence by an appraisal organization on the valuation of private minority interests.<sup>3</sup>

The main financial factors to consider under PG-2 with respect to valuing a subject partial interest (Section III. C.) are income approach factors:

- Expected and required holding period
- Expected interim dividends or distributions to the interest, which *may differ* from the expected benefits (cash flows) generated by the entity or asset as a whole
- The expected terminal cash flow at the end of the expected holding period(s)

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- Required return for investing in the subject interest
- Ownership-level tax effects

PG-2 recommends in Section IV that appraisers consider all three approaches to value (asset-based, income, and market) when valuing partial interests and that if an approach is not used the appraiser should explain why not. Finally, one of the most important recommendations in PG-2 (Section IV.F.) is that in reconciling a final conclusion of value the appraiser should:

- Calculate the implied internal rate of return for the subject interest at the concluded price over the relevant range of expected holding periods, and compare the implied internal rate of return to expected returns of similar investments.
- Calculate the implied dividend or distribution yield for the investment based on the expected dividend or distribution policy, and compare the implied dividend or distribution yield with expected yields on similar investments.

The importance of this recommendation extends even to those using standard discounting procedures. If the answer doesn't pencil out economically, then it's probably not the right answer.

## 2. Research by Munroe, Park & Johnson

Bruce Johnson, ASA, of Munroe, Park & Johnson, has spoken for years about his research into publicly syndicated but not publicly traded limited partnership interests. As mentioned above, his research shows that transactions in these illiquid and unlisted securities are based upon a required rate of return rather than a discount. Working with Spencer Jeffries of Partnership Profiles, Mr. Johnson has shown that the required rate-of-return expectation for investors in secondary market partnerships tends to average 20-25 percent. Bruce and Spencer's research mirrors my own research in the secondary partnership market.

## 3. The Non-marketable Investment Company Evaluation Method

Will Frazier, now with Stout Risius Ross, is the developer of the Non-marketable Investment Company Evaluation (NICE) method. Under the NICE method, the income approach is paramount. Embedded in the software program that Frazier has constructed are probability functions that may be laid over various uncertainty factors, such as holding period, required rate of return, and future residual value. Frazier is also the author of "Cost of Capital of Family Holding Company Interests" in the valuation textbook, *Cost of Capital*.<sup>4</sup> In his dissertation he emphasizes the importance of using the income approach in valuing private company interests for the simple reason that this is how investors behave, as opposed to purely theoretical constructs such as discounts.

## 4. The Integrated Theory of Business Valuation

Support for the income approach also comes from the quantitative marketability discount model (QMDM), developed by Z. Christopher Mercer of Mercer Capital. This method uses the income approach described above to develop a "marketability discount." In fact, what the QMDM really does is develop a *value* for an interest, *not a discount, per se*. In my view the name for this method is not precisely correct (even though the procedure it describes is). Be that as it may, the QMDM has been explained and expanded on in several books by Mercer, such as *The Integrated Theory of Business Valuation*,<sup>5</sup> and has become a well-known procedure for many appraisers. While there have been some critiques of this procedure (discussed below), overall the process itself has held up in court and it is hard to see why it would not prevail due to the fact that it is largely based upon how real investors do actual transactions.

## 5. Other

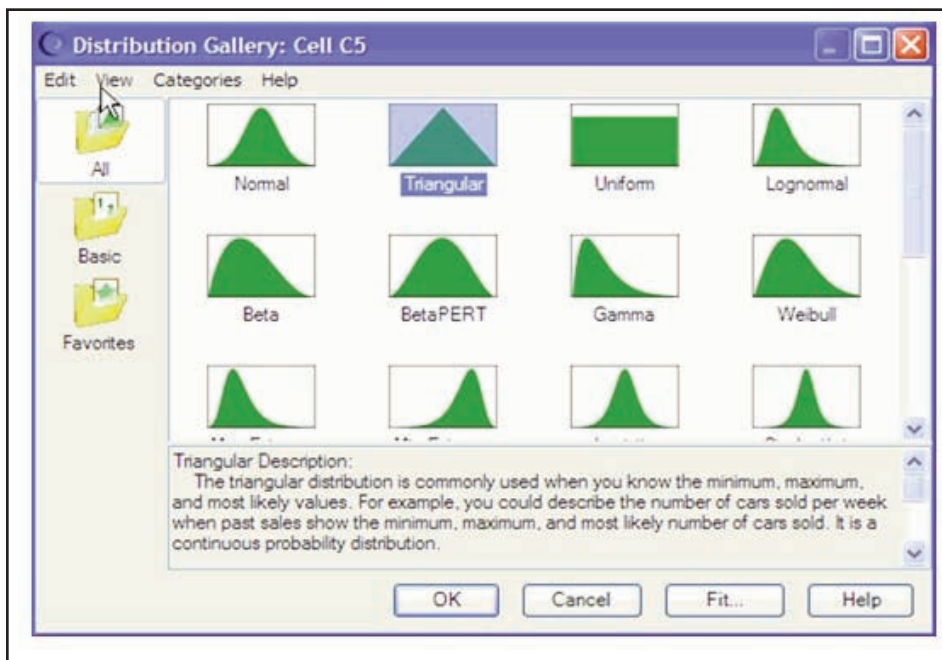
There are likely many other authoritative references supporting the income approach, but in actuality the most basic authority comes from real investors in the real world. For flesh-and-blood investors the only economically valid approach that can be taken in developing a price to pay for a closely held business interest is to figure out a price at which they can make money. Making money means purchasing an interest for less than its eventual sale price, *after-tax*. (In other words, wealth is only generated when more money comes to rest in a bank account *after taxes* than was originally invested.) To the best of my knowledge, no actual buyer in the real world has ever purchased a private minority interest by developing a net asset value for the company as a whole and then taken discounts for lack of control based on acquisition premium studies or closed-end fund studies, coupled with a discount for lack of marketability based on restricted stock or pre-IPO studies. The most important support for the income approach therefore comes from the market participants who use it every day.

## CRITIQUES OF THE INCOME APPROACH

Critiques of the income approach tend to come from the IRS or the courts and revolve around the idea that the inputs to a discounted cash flow model can be manipulated by a biased appraiser to achieve a particular outcome for the client.

The IRS and the courts are justifiably leery of biased appraisers and manipulated appraisals. This is why it is critical to make sure the appraiser makes an active effort to control known and even unknown biases. You should hear the appraiser say things like: "Do I care what my client wants? Of course not!" and "The number is the same regardless of who my client is." It is also important to ensure that the

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appraiser has a deep understanding of what investors in these types of interests face, and has knowledge of how the markets actually work so that the analysis mirrors as closely as possible how the subject interest would actually change hands between independent parties.

Even without fraud or bias, the future is always unknown, and forecasts are intrinsically difficult. Yet, uncertainty about the future cannot be avoided by real world investors, so why do appraisers and the courts believe they can assume away uncertainty when actual investors cannot? Dealing with uncertainty head-on is a better long-run strategy than pretending that acquisition premium studies and pre-IPO stock studies represent any sort of truth.

Some analysts conclude from the *Janda*<sup>6</sup> case that the courts have rejected the QMDM, but that is a misreading of the court's criticisms. The court in *Janda* disagreed with some of the assumptions used by the taxpayer's appraiser, but not with the income approach *per se*. A more cogent explanation by the appraiser of all the factors considered in the discounted cash flow analysis in *Janda* might have given the court more comfort with the ambiguities of the interest at issue. The appraisal of illiq-

uid, non-controlling closely held business interests is not so much a question of fact as it is a question of attempting to illuminate and piece together all the uncertainties into a reasoned, informed, logical, and probabilistic picture of the possible future outcomes for the subject interest.

The use of Monte Carlo simulation software could also help narrow the discussion for appraisers and the courts to an explanation of the probability of various factors such as holding period, cash flows, residual value, required rate of return, etc. As just one example, Oracle's Crystal Ball may be used to develop a value range using various probability distributions like the ones shown in the screenshot from Oracle's website, shown above.

These types of probability distributions could easily be applied to the various factors in the income approach. For example, if we know that the holding period will be a minimum of two years, with the most likely time frame being 10 years, but with a possibility of a 30-year hold, then perhaps a gamma or lognormal probability distribution would be appropriate over a 2 – 30 year hold. Buyers and sellers in the real world think in terms of probabilities, and Monte Carlo analysis gives the appraiser the ability

to get into the heads of investors and realistically mirror their thought processes.

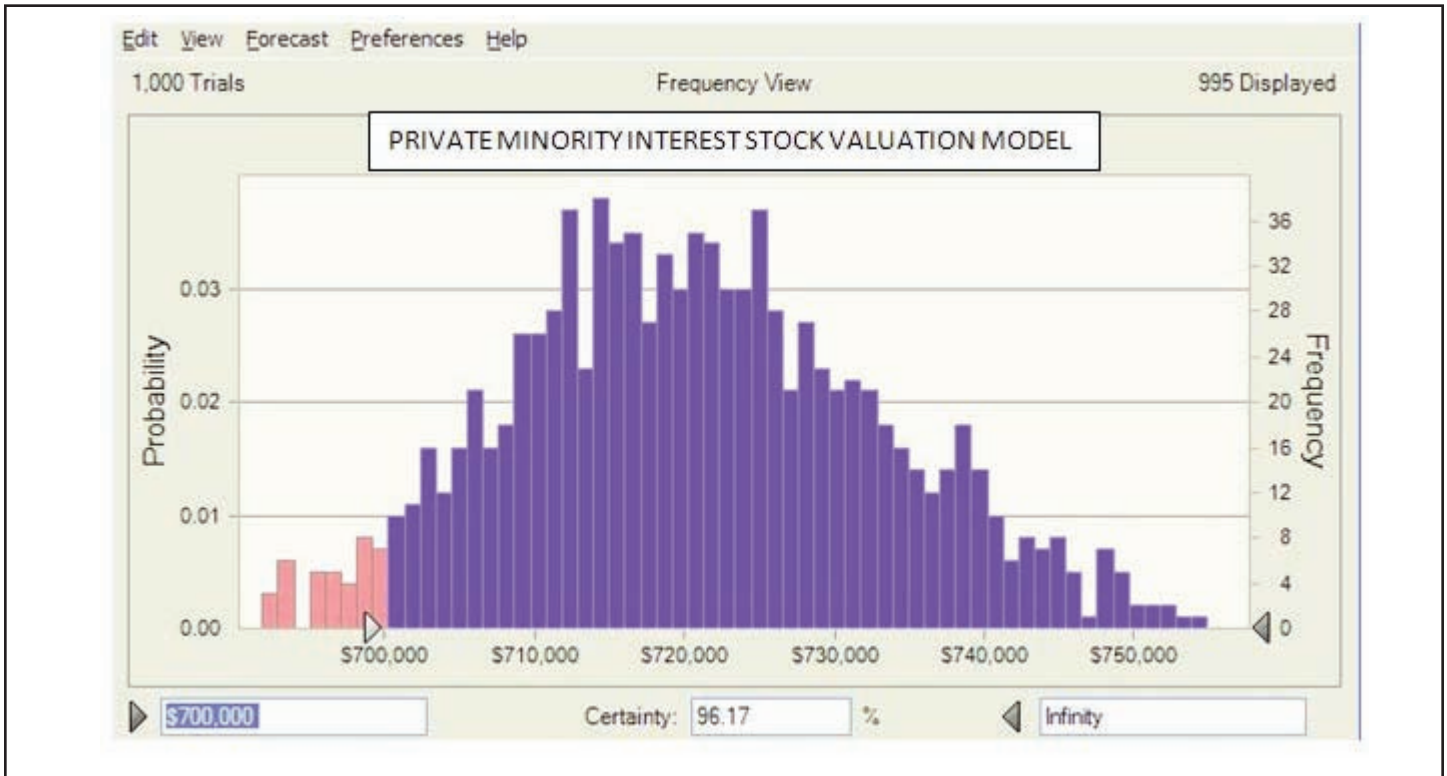
Ultimately, by analyzing the various points in the valuation model at which uncertainty exists, applying probability functions, and allowing the model to run multiple times, a graph of the results may be developed that will look something like the screenshot from the Oracle website, shown on the next page.

This is the type of result one would expect from a valid valuation analysis. It realistically and intuitively expresses value within a range, which all appraisers know to be true but generally do not know how to express adequately. It embodies differing opinions about future cash flows, residual values, and rates of return. It will allow judges to feel more confident in rendering decisions in contested valuation disputes. In the picture on the next page, the value of the interest could be between \$690,000 and \$750,000 with the most likely range between \$710,000 and \$730,000. These are readily understandable ranges by appraisers and the courts, and presumably could be successfully defended in court by a competent expert witness. Disputes might be eliminated and resolved by allowing the judge to change parameters based on reasoning and logic, and running the model again.

**CONCLUSION**

The income approach to valuing private minority interests is flexible and works under most circumstances. It can easily handle all manner of investments, different types of entities, built-in capital gains in corporations, and distributing or non-distributing entities or assets. The income approach reflects how real-world investors behave, based on empirical evidence from market participants. Because of this, the income approach gives appraisers the ability to emulate much more closely how a particular subject interest actually would trade in real life. It deals with the direct economic

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consequences of ownership as opposed to backing into value indirectly through valuing the company as a whole and then applying discounts. It is a *direct* approach to valuing private minority interests rather than an *indirect* approach.

Using the income approach, differences in opinions between appraisers can be more easily clarified and normalized in terms of probability estimates of various forecast events. For example, judges can get to the bottom of why the appraisers on each side of a conflict have differing opinions of interim cash flows and the timing of an ultimate liquidity event rather than trying to mediate a hypothetical discount based on irrelevant Black Scholes models or misunderstood and misinterpreted data on public company takeover premiums.

Last, but not least, appraisal conclusions concerning private minority interests, however derived, may be cross-checked for economic validity using the income approach, as recommended in ASA's Procedural Guideline 2. Regardless of whether you are using the antiquated discounted net asset value model, an Ouija board, a palm reader, or throwing the I Ching, the final conclusion may be run through a "sanity check" by examining the implied internal rate of return for the interest based on expected interim cash flows to the minority owner, and the size and timing of a possible liquidity event.

Arguing about the economic realities of owning a subject private minority interest with all its potential

risks and returns would be more productive than having appraisers and attorneys attempting to punch each other out in court over confusing and unresolvable issues like whether a particular set of closed-end funds is relevant or not. [↪](#)

<sup>1</sup> Bruce A. Johnson and Spencer J. Jeffries, *Comprehensive Guide for the Valuation of Family Limited Partnerships* (Dallas: Partnership Profiles, Inc., 2001), 29.  
<sup>2</sup> *Estate of Richmond v. Commissioner*, T.C. Memo 2014.  
<sup>3</sup> ASA Procedural Guidelines suggest certain procedures that may be used and are not binding.  
<sup>4</sup> Shannon P. Pratt and Roger J. Grabowski, *Cost of Capital*, 5th ed., (Hoboken, NJ: John Wiley & Sons, Inc., 2014), ch. 23.  
<sup>5</sup> Z. Christopher Mercer, *The Integrated Theory of Business Valuation*, 2nd ed., (Hoboken, NJ: John Wiley & Sons, Inc., 2007).  
<sup>6</sup> *Janda v. Commissioner*, T.C. Memo. 2001-24, Docket 5100-99 & 5101-99.

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