

Net Present Value: A Business Skills Refresher

By Steve Wilent

Pop quiz: Question 1. Explain in one sentence the term “net present value” (NPV). Question 2. Define “internal rate of return” (IRR). Turn in your quiz in five minutes.

Until a few weeks ago, I would have flunked the quiz. How can that be, you ask? These calculations are among the most basic in making forest-management business decisions. I confess to having only a vague notion of the terms, and how to apply them, until recently. I’m probably not alone. Many foresters have no need to employ financial and investment analyses on a regular basis, if at all, and may have been only briefly exposed to them while in forestry school. That’s one reason I attended a workshop in March, “Six Skills: Financial and Business Management for Forestry and Natural Resource Leaders,” presented by Brooks Mendell, president of Forisk Consulting of Athens, Georgia. The workshop, held in Portland, Oregon, was organized by Richard Zabel, executive director of the Western Forestry and Conservation Association (westernforestry.org).

The six skills covered were:

1. Conducting basic financial analysis in forestry
2. Understanding basic tax rules and ownership structures
3. Understanding the language of business (financial statements)
4. Putting forestry risks in perspective
5. Understanding markets and forestry data
6. Communicating with a range of individuals, executives, and organizations

Mendell has 20-something years of consulting, operating, and research experience in forestry and finance under his belt. Forisk describes itself as a company that “analyzes forest supplies, wood demand, and timber pricing to develop forecasts and strategic guidance for clients. Our approach emphasizes rigorous research, clear communication, localized analysis, and direct forestry experience” (forisk.com). Forisk also conducts workshops, such as the one I attended, and publishes books for forest-industry professionals and investors.

Much of the Six Skills workshop is covered in-depth in Mendell’s book, *Forest Finance Simplified*, now in its fifth edition. Each workshop attendee received a copy; I plan to keep mine on my desk as a reference and recommend that you do, too—it will be \$35 well spent. If you need to refresh your memory on NPV, IRR, or other terms, such as “bare land value” (BLV), you’ll need only reach for this 100-page book.

Why do foresters need to know about NPV, IRR, and other such concepts? They tell landowners and investors when forestry makes good business sense.

Net present value (NPV): sum of discounted revenues minus discounted costs

$$NPV = -\text{Initial Investment} + \frac{\text{Cash Flows}_{\text{Year}}}{(1 + \text{Discount Rate})^{\text{Year}}}$$

Where:

- Cash Flows = net costs and revenues for each year
- Discount Rate = applied cost of capital or hurdle rate
- Year = investment life

Decision Rule: If NPV => zero, then accept

Source: Forisk Consulting

Figure 1. Net present value. Source: Forisk Consulting.

Net Present Value Example

$$NPV = \$190 - \frac{\$45}{(1 + .05)} + \frac{\$1,000}{(1 + .05)^{15}} + \frac{\$2,400}{(1 + .05)^{25}} = \$956.89$$

Where:

- Discount (Hurdle) Rate = 5%

Source: Forisk Consulting

Figure 2. A simple net present value calculation. A forest manager calculates that the costs of planting a given parcel will cost \$190 per acre and \$45 per acre for weed control at age 1, and it will earn revenues of \$1,000 per acre from thinning at year 15 and \$2,500 per acre from the harvest at age 25. The net present value of \$956.89 is the wealth generated above the 5% discount rate. Source: Forisk Consulting.

“At the end of the day,” Mendell said at the workshop, “the ability to do the math about where capital is spent or allocated responsibly and getting returns [is important, because] the research shows—and we know from experience—that when forest owners and investors have the opportunity to manage their resources and generate a reasonable rate of return, they replant.”

In his book, Mendell defines NPV as “the present value of future revenues minus the present value of future costs. It is a measure of wealth creation relative to the discount rate. So a negative or zero NPV does not indicate ‘no value.’ Rather, a zero NPV means that the investment earns a rate of return equal to the discount rate. If you discount the cash flows using a 6% real rate and produce a \$0 NPV, then the analysis indicates your investment would earn a 6% real rate of return.” (See Figure 1.)

In other words, he told the workshop attendees, “If your [NPV] is above zero, it means that, not only did you earn that rate of interest, you also created additional wealth for yourself or for your clients.” (The discount rate is sometimes called the hurdle rate.)

NPV is unambiguous and easy to calculate, Mendell said, giving a simple example: A forest manager calculates that the cost of planting a given parcel will cost \$190 per acre and \$45 per acre for weed control at year 1, and it will earn revenue of \$1,000 per acre from commercial thinning at year 15 and \$2,500 per acre from

the harvest at age 25. The net present value of \$956.89 is the wealth generated above the 5% discount or hurdle rate. (See Figure 2.)

Like the book, the workshop offered similarly easy-to-understand examples of IRR, BLV, and so on. Workshop attendees also received copies of two other books by Mendell. One is *Aunt Fanny Learns Forestry: Managing Timberland as an Investment*, in which he uses the experiences of a semi-fictional person who inherits 220 acres of timber, but knows little about forest management. Aunt Fanny’s nephew, a forester, teaches her about the topic. This book would be of much use to

both private landowners and their forestry consultants, regardless of their level of experience.

The other book is *Loving Trees Is Not Enough: Communication Skills for Natural Resource Professionals*, which explains why communication skills are so crucial to being an effective and successful forester, from interviews and contract negotiations to mundane tasks such as using e-mail and running meetings. Even if you think you’re a good communicator, you ought to read this book to see if you really are.

I don’t have space here to describe the full workshop. Doing so would take... well, three books. I’ve attended many superb workshops over my more than 30 years as an SAF member. Mendell’s is among the best of them. He’s an engaging, energetic speaker who enjoys interacting with the audience, sometimes by telling humorous stories to illustrate points. See the Forisk website for future events.

OK, Another pop quiz. 1. Define “BLV” and give two other terms that mean the same thing. You have five minutes. No sweat? Great, you’ve done your homework. **FS**

In Memoriam

To submit obituaries about SAF members to *The Forestry Source*, please send text, photos, and links to online obituaries, if available, to Steve Wilent, Editor, at wilents@safnet.org. Many funeral homes offer longer versions of obituaries and the deceased’s preferences regarding organizations to which to direct memorial donations; many also provide facilities for family members and friends to post expressions of condolence. Send printed obituaries and other materials to In Memoriam, *The Forestry Source*, SAF, 5400 Grosvenor Lane, Bethesda, MD 20814-2198.



Brooks Mendell, president of Forisk Consulting, leading a recent financial and business-management skills workshop in Portland, Oregon.