

# A Different Approach

**Conventional methods for determining how much life insurance a household needs don't take into account what kind of lifestyle insureds want for themselves and their survivors.**

*[by Anthony Steuer and Laurence Kotlikoff](#)*

How much life insurance is enough? This question can generate lots of heated debate, because there's generally no single, correct answer. The future is uncertain, and planning for it requires making several assumptions. And the best answer for today can change tomorrow if a person gets laid off, receives an unexpected raise or loses his shirt in the stock market. The amount of life insurance someone needs might even change during the time it takes to underwrite a policy.

But households cannot wait for the future to unfold before deciding how much insurance to buy. They need to make their best estimates about future finances and family composition. A financial-planning tool can help in this process. But it's important to choose one that uses an assessment method that makes the most sense for a household's individual circumstances.

## Setting Parameters

Historically, there have been two basic methods for determining insurance needs: Human Capitalization Value and Capital Needs Analysis.

The Human Capitalization Value method is very simple. It's also the most frequently mentioned by financial columnists in consumer publications. It involves projecting future earnings and discounting them back to the present. Clients are advised to hold life insurance equal to between five and eight times their present annual earnings. While simple, this earnings-multiple method misses a range of important factors. For example, it ignores household demographics, past savings, Social Security offsets and housing expenses. It also ignores expected life changes and individual preferences about sustaining the living standards of survivors.



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The Capital Needs Analysis method is used by most insurance agents/planners and at most financial-planning Web sites. Chartered life underwriters (CLUs) know the method as the Human Life Value Concept or the Human Capitalization Method. A variation of this method is used in wrongful death litigation to compute the present value of the insured's future income, minus personal expenses, to indemnify the survivors for lost net earnings.

Like the earnings-multiple method, the Capital Needs Analysis method projects the income the insured will earn between now

and retirement and discounts these flows. But this procedure goes further: It calculates the net contribution of the insured to the family's living standard by subtracting the insured's present values of future tax payments and living expenses from his or her present earnings. The net contribution of the insured is then compared with today's spending needs of potential survivors. Such a needs analysis incorporates factors such as mortgage payments, other household expenses and special expenditures.

But the Capital Needs Analysis method raises several concerns:

- If the household sets a spending target too high for survivors, the method will generate a larger amount of life insurance than is appropriate. This will cost the household too much in life insurance premiums. If the spending target is set too low, the recommendation would leave the household underinsured.
- Decisions about buying insurance, spending and saving money are interrelated and need to be jointly determined. The amount of life insurance purchased affects the amount of premiums paid, which affects the household's affordable living standard, which influences how much life insurance the household needs. To properly calculate this, a complex mathematical procedure is needed, which this method does not employ.
- Third, unless future tax payments are calculated accurately on a year-by-year basis, they can easily be overstated or understated, which would throw off the calculation of the amount of life insurance needed.
- For married couples, tax payments are generally made via a joint return. This makes distinguishing each spouse's individual taxes difficult to determine. And again, without an accurate calculation of future tax responsibility, the life insurance needs analysis will not be reliable.

Another method of determining the necessary amount of life insurance is the economic approach. This method can be compared with the Capital Needs Analysis method, which generally relies on very rough calculations and forces households to set their own spending targets.

The economic approach is based on the life-cycle model of saving. The life-cycle model was developed in the 1950s and 1960s by Professor Franco Modigliani and his colleagues at Massachusetts Institute of Technology. Modigliani won the Nobel Prize in 1985 for developing the model, which built on early work by Yale economist Irving Fisher in the 1920s.

The model assumes that an insured's goals are to secure the living standards of the household and ensure comparable living standards for his or her survivors. In the economic approach, spending targets are derived by calculating how much the household can afford to consume in the present and still be able to preserve the same living standard in the future. Although spending targets under the Capital Needs Analysis approach can be adjusted to approximate those derived under the economic approach, there are practical limits to doing so. This is particularly the case for households experiencing changing demographics or facing borrowing constraints.

### **Annual Assessment**

A new financial-planning software program, ESPlanner--which stands for Economic Security Planner--implements the life-cycle model. The software was developed by Stanford economist Douglas Bernheim, Cleveland economist Jagadeesh Gokhale and Boston University economist Laurence Kotlikoff.

ESPlanner is based on the fundamental goal of saving money and having insurance--the desire to avoid major disruptions in a household's standard of living. ESPlanner uses advanced mathematical techniques to calculate the savings and life insurance needed to balance consuming in the present with consuming in the future and to preserve a household's living standard for survivors.

ESPlanner's annual recommendations for life insurance coverage help clients save more when they can and less when they can't. Their savings, not their lifestyle, adjusts to their economic circumstances. Their life insurance holdings also are adjusted as their life insurance needs change. All economic resources, tax liabilities and benefits--such as Social Security retirement benefits and survivor benefits--are taken into account in the calculation, along with family demographics, tax-deferred savings, housing plans, special expenditures, estate plans, capacity to borrow and lifestyle preferences.

This type of modeling includes contingent planning, which recognizes that survivors may have special needs and different incomes. Key variables--age of retirement, Social Security benefits and tax-deferred asset withdrawals, for example--can be changed to determine how these factors alter the maximum sustainable living standard. This software helps advisers more accurately assess a household's financial-planning needs.

The savings and insurance recommendations generated by ESPlanner are substantially different from those of the conventional methods, according to a study by Gokhale, Kotlikoff and Mark Warshawsky, director of the TIAA-CREF Institute. The paper, "Comparing the Economic and Conventional Approaches to Financial Planning," is available at [www.esplanner.com/research.htm](http://www.esplanner.com/research.htm).

The study indicates that the differences in savings recommendations are primarily due to ESPlanner's adjustment for household demographics and borrowing constraints. The differences in life insurance recommendations reflect these same factors, as well as ESPlanner's accounting for contingent household plans and for Social Security's survivor benefits. The less detailed tax and Social Security retirement benefit calculations used in traditional financial-planning software also explain some of the differences between the two programs' coverage recommendations, according to the study.

The fact that life insurance is just one of a broad array of financial products that households need to achieve economic security explains the ongoing merger of the life insurance industry with the rest of the financial-services sector. Someday, a new sector called "life-cycle financial services" may emerge. If it does, it will allow the industry to tailor the insurance needs of individual households to their chosen standards of living.

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