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UNDER THE HOOD

Retirement Engine Rebuilt

JUST ABOUT everybody needs to plan for retirement. Unfortunately, mixing domestic and international stocks with traditional and inflation-protected bonds and hoping they deliver the right payoff decades in the future is a daunting task, even for professionals. And what's really absurd, says Robert Merton, McArthur University Professor at Harvard Business School and 1997 Nobel laureate in economics, is that most self-directed retirement plans expect everyone from professors to doctors to assembly-line workers to do that mixing themselves. "Imagine being wheeled in for surgery," he says. "I'm kind of going under from the anesthetic, when suddenly my hand-picked surgeon says, 'Mr. Merton, do you want 17 or 12 sutures?' But that's what they're asking!"

Throughout the past decade, Merton explains, companies in general have moved from plans with defined benefits (pensions) to plans with defined contributions, such as 401(k)s. Pension

plans guaranteed a certain standard of living but, Merton says, they have proved far more costly to employers than expected. Defined-contribution plans are more focused on the *means* of making money than on the *end* of having enough, and transfer the risk of accumulating sufficient savings to the prospective retiree. In future retirement plans, Merton believes, the buyers will set a goal and, aside from a few important questions (how much will you save each month?), it will be the *provider's* job to reach it.

Defined-benefit plans, such as corporate pensions, normally paid workers a percentage of the salary they made in their final years on the job. Instead of offering an extra dollar an hour during wage negotiations, for instance, employers would offer an extra 50 cents an hour plus 50 cents in future benefits. The arrangement pleased management and labor alike. Workers had a reliable retire-

ment plan. Employers didn't need to put higher salaries against their yearly earnings.

But companies underestimated the amount they needed to invest to pay the pensions, explains Merton, because they failed to factor in risk—which would have made the plans far more expensive. For example, if stocks have an expected annual return of 10 percent and bonds have an annual return of 4 percent, then ordinarily it will take less money initially invested in stocks to reach the goal. But companies invested as if the market could go only one way, and, he notes, "Expected is not necessarily what you get." Merton, who rebuilt his first car at age 15 and later raced hot rods in upstate New York, says employers were unwittingly offering Bentleys for the price of Camrys.

The market downturn between 2000 and 2002 quickly disabused companies of the notion that they could continue paying for Bentleys. Hastening a shift already under way, many firms capped pension plans and didn't offer them to younger workers. Almost by default, says Merton, defined-contribution plans—in which employers may match workers' contributions to investment funds—became the norm. The employer-provided 401(k) used to be an afterthought in retirement planning—a way for peo-

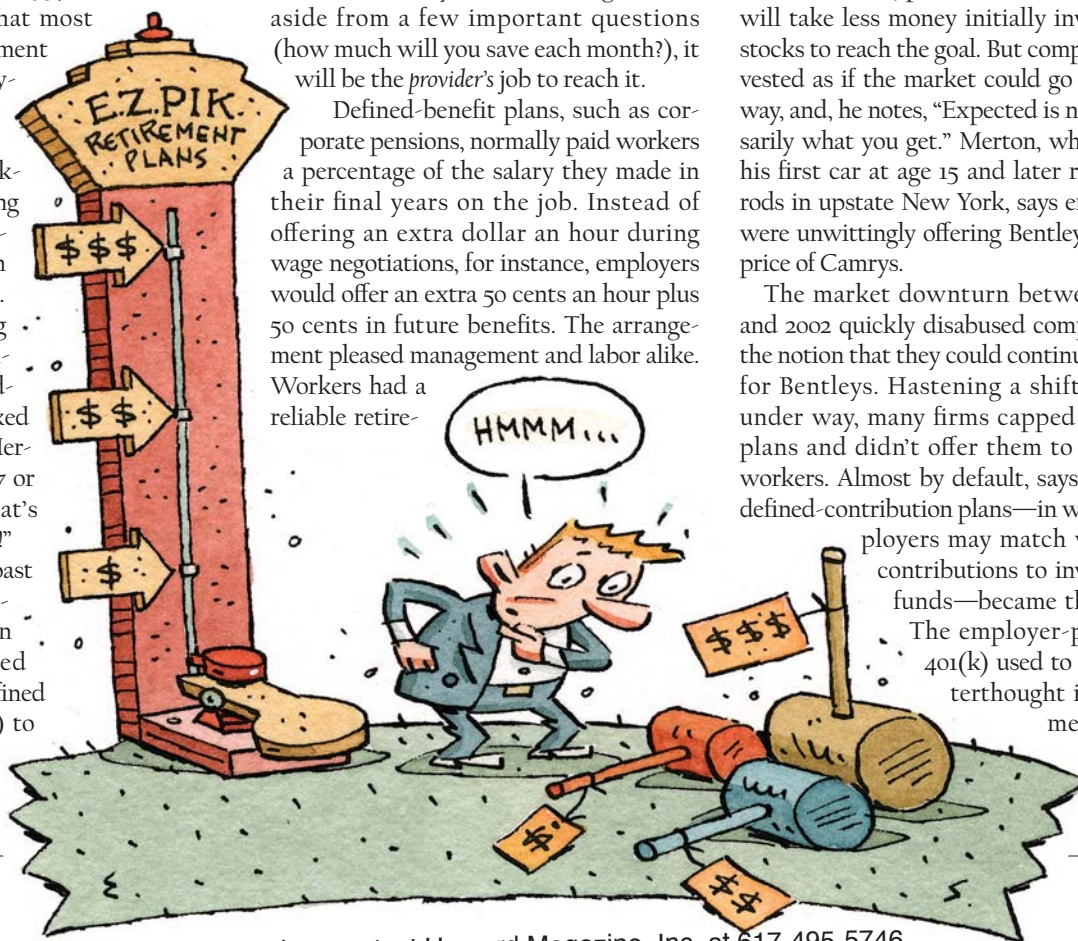


ILLUSTRATION BY ELWOOD SMITH

ple to dip a toe into the market. “What was originally designed to be supplemental,” he says, “is becoming core.”

The trouble with asking employees to pick among investment categories within defined-contribution plans, says Merton, is that the choices aren’t meaningful. What you want to know is how much you should be saving, how much you’ll be living on if you do, and whether or not

Merton’s solution, SmartNest (already installed at a European electronics firm), gives plan-holders a few simple choices, available as a computer program. The program asks users for both minimum and ideal retirement incomes (a floor and a ceiling). Users also tell the program how much they would be willing to save each month and their preferred retirement age. Based on these inputs, the program then

and short-term bonds. In order to attain the ceiling, the plan relies on equity market returns. Users can increase their odds of attaining their ideal income, but doing so means saving more each month. “Now that’s a meaningful choice for you,” says Merton. The final goal is to have enough money in the account at retirement to buy an inflation-adjusted annuity plan and thus enjoy a steady yearly income thereafter.

Merton doesn’t mean to say that people shouldn’t immerse themselves in all the minutiae of retirement planning, if that’s what they happen to prefer. If you are the kind of person who likes building cars and hi-fi sets, he says, then by all means, go ahead. But “most people hate doing financial planning,” he notes. “It’s like going to the dentist without Novocain.”

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you’ll be able to retire early. Instead, your 401(k) asks you whether you’d like more mid-cap stocks. What, he asks, does *that* have to do with the goal of “having the standard of living in retirement that I want”? Car buyers, he points out, don’t need to know the number of cubic centimeters in their engines in order to drive off the lot.

calculates the odds of reaching the upper goal. The investment strategy remains under the hood, where Merton or other financial mechanics can give it periodic tune-ups.

The plan actually uses two different strategies, one for the floor and one for the ceiling. To build the floor, Merton’s plan invests in a conservative mix of long-

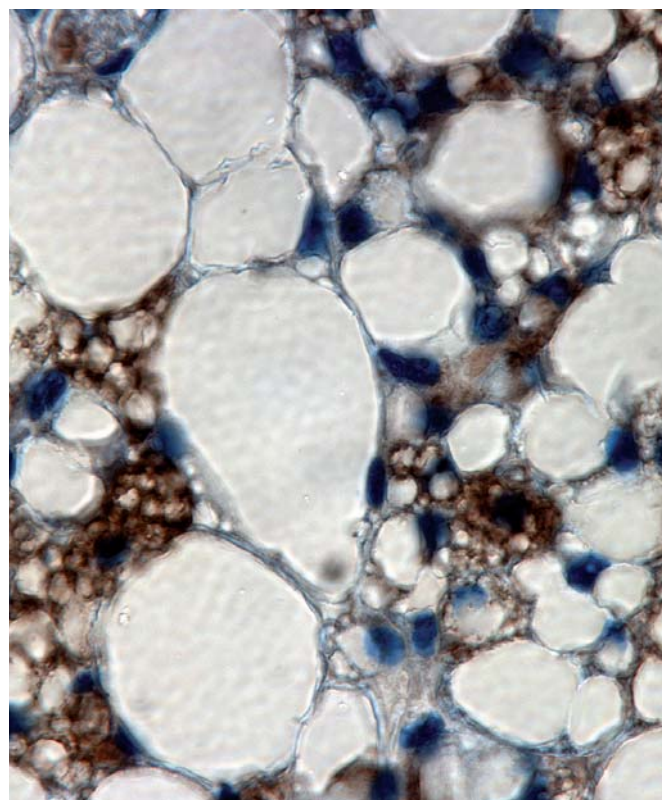
OXIDATIVE OXYMORON

The Fit Fat

WHEN it comes to our food, we are used to thinking about “good fat” and “bad fat.” Unsaturated fat (found in such foods as salmon, nuts, and olive oil) promotes health and keeps cholesterol in check; saturated fat (meat, eggs, dairy) is less healthy and should be consumed with caution; and trans fat (partially hydrogenated oils, commonly found in baked goods and restaurant frying oil, but now banned in some places) is practically poison, clogging the arteries and contributing to hypertension and heart disease.

But the body, too, has good fat and bad fat—and the difference is not one of quantity, but of kind. When most of us think of fat tissue, what we really have in mind is *white* fat, which stores excess calories and tends to accumulate with too much food and too little physical activity. It’s true that we need *some* white fat to keep us warm and to provide energy during extended periods without food, but above this minimal amount, the less we have, the better.

Brown fat, on the other hand, is “metabolically hyperactive,” says Korsmeyer professor of cell biology and medicine Bruce Spiegelman. Instead of socking away stored energy for later use, brown-fat cells *burn* energy. With one of the highest rates of oxidative metabolism of any kind of cell in the body, and a very high density of mitochondria, “brown fat is the superathlete of mitochondrial biology,” says Spiegelman, who studies the wondrous tissue type. It is the sheer density of mitochondria—the cellular powerhouses that convert glucose (blood sugar) into a form of chemical energy that the body can



This image shows small brown-fat cells—which burn energy as heat—interspersed among larger white-fat cells, which store energy. The former are stained brown here; their natural color, which results from the density of mitochondria, would not be visible in this thin cross-section of tissue. (The blue staining marks cell nuclei.)