

Outside the Box

In reading the November/December issue of *Contingencies*, I wondered whether our thinking on health care isn't too constrained by the U.S. experience that, to my mind, is heavily influenced by entrenched stakeholder interests (providers, insurers, drug companies, etc.), each stakeholder looking to



preserve (or strengthen) its own economic position even if it's contrary to the public good (i.e., high costs leading to poor access to care).

How about circumventing that position a little? Globalization and technology allow (or will increasingly allow) us to do so. If tutoring and homework guidance can be outsourced (with a tutor from India working with a U.S. student via the Internet), aren't there possibilities with some or virtually all elements of non-emergency medical care, such as diagnosis, setting the course of treatment, etc., through current (or upcoming) technology? How about elective surgeries or treatment for terminal diseases, such as cancer, in Latin American and Asian countries? This would seriously expand competition beyond national boundaries and hopefully increase affordability. To some extent, this is already happening, the latter more than the former. Beyond the near term, there might be opportunities for involving artificial intelligence in the delivery of medical care.

Facilitating these options for those who wish to use them won't be easy. Yes, there will be problems to solve, and entrenched interests will be resistant (using, perhaps, the quality-of-care scare). But shouldn't we be interested in checking these out? The possibilities are much too enticing to ignore.

SHIRAZ JETHA
OLYMPIA, WASH.

DB vs. DC

Robert Rietz's letter in the November/December issue on the relative efficien-

cy of defined benefit (DB) plans compared to defined contribution (DC) plans describes the three advantages of DB plans:

- ▶ That employers can design the DB plan to provide exactly the benefit they wish to provide;
- ▶ That employers, investing more aggressively and for the long term, receive a risk premium that lowers the cost of a given benefit;
- ▶ That the benefit is in the form of an annuity.

Each advantage has a corollary weakness:

- ▶ That employers can design a DC plan to provide exactly the level of contribution that they wish to make
- ▶ That if plan sponsors are constrained not to seek the premium associated with investment risk, DB plans will earn lower returns, thereby increasing the cost of a given benefit
- ▶ That DB plans don't provide a hedge against the loss of purchasing power.

For the first 40 years of my 50 years as a pension actuary, it would have been laughable to suggest any restraint on plan sponsors' willingness to take reasonable long-term investment risk. But as Mr. Rietz's article on the very next page ("Coming Full Circle: A Pension Risk Primer") indicates, Congress has enacted legislation forcing employers to consider the potential impact of such risk on their cash flow. Accounting rules are inexorably pushing plan sponsors to consider the impact of investment risk on their bottom lines. Year-to-year return fluctuations can no longer be tolerated, especially in those

well-funded plans in which assets and liabilities are in close proximity.

No wonder prudent employers are curtailing the DB risk to their enterprise by freezing accruals and terminating plans and taking advantage of amendments to the Tax Equity and Fiscal Responsibility Act of 1982 that allow higher limits on annual additions to

participant accounts in DC plans and allow higher contributions to those plans in general.

Congress may later castigate the employer community for dropping DB plans, but legislation does drive action and favors one type of enterprise over others. Clearly Congress does not favor the DB plan.

DICK RASKIN
FLORHAM PARK, N.J.

This letter is in response to "How Efficient Are Retirement Programs in Delivering Dollars to Retirees?" by Ron DeStefano in the September/October issue, as well as Robert Rietz's letter on the same topic in the November/December issue.

The entire premise of Mr. DeStefano's article is based on his definition of efficiency as "the portion of [the plan's] assets that are delivered to those retiring from the workforce, as opposed to those leaving before retirement." I think this definition is irrelevant to employee benefit decisions being made today.

To make my problem with this perspective clear, let me provide an example: Two employees have 10-year tenures at Acme Co. Employee A works for Acme from ages 25 to 35 and goes to work elsewhere until retirement. Employee B works elsewhere up to age 55, then works at Acme from 55 until retirement at age 65. Why would Acme care more about the 10-year tenure of employee B over the 10-year tenure of employee A? From a percentage-of-salary-cost point of view, a DC plan would make each employee equally expensive to

provide with pension benefits; a DB plan would make a 55-year-old employee much more expensive.

Let us be clear about why companies provide any sort of employee benefits: because they want to attract and retain good workers for the period of time that they will be useful to the company. Very few people spend 40 years of work at one company, which is why most young employees like the portability of DC plans. For one thing, many companies will not be around for 40 years, and besides, many people expect to have a couple of different careers before retirement. Also, companies don't necessarily want to hang on to the same employees for decades, as their business models change. However, this is not to say a DB plan is always a bad idea—it's attractive to those hypothetical near-retirement new employees, which may be very important for certain businesses as they find

people with experience that is in short supply. It should be considered as part of an employer's toolbox to attract and retain key employees, but it definitely has its drawbacks from both the employee's and employer's point of view.

As to Mr. Rietz's letter, the same payout efficiency he describes as a characteristic of DB plans can be achieved with annuity products available in the wider marketplace. Indeed, they can be even more efficient than DB plans in that you can get guaranteed periods with annuities to have benefits paid out to a beneficiary after the retiree's death, in addition to a number of joint annuity designs and variable annuities that can help hedge against inflation. Yes, these products are not well understood by the public, but it is up to us actuaries to better educate them.

MARY PAT CAMPBELL
NEW YORK

Another Perspective and Second Thoughts

Red Kilbourne's analysis of the future cost of government in the January/February *Contingencies* needs to be put into perspective. Assuming real wages grow at 1.1 percent per year, the Social Security trustees' intermediate assumption, the 15 percent of gross domestic product available for nongovernment spending in 2100 will have 96.4 percent of the buying power per capita of the 44 percent available in 2005, the most recent past quinquennial year. Given the uncertainties of the projections, it is safe to say that our standard of living in the nongovernment sectors will be maintained.

In our current economy, motor vehicles outnumber licensed drivers, the average new house boasts 2,500 square feet of living space, and we have food in such abundance that we spend tens of billions of

Does your lawyer understand:

- The difference between Schedule P and a Schedule B?
- IBNR estimates based on the BF method?
- Reinsurance commutations?
- Viatical settlements?
- The ASOPs?

We do.

We can resolve your complex actuarial, pension and insurance disputes.

To discuss your dispute, contact Reinhart lawyers Tim Muth or Sandy Brown at 800-553-6215

Milwaukee
414-298-1000
800-553-6215

reinhartlaw.com

Reinhart
Boerner Van Deuren s.c. Attorneys at Law

dollars each year attempting to counter the effects of eating too much of it. In the face of all this, there is good evidence that we as a society are becoming satisfied with our economic lot as measured by traditional benchmarks. For example, much has been made of the fact that income per household has stagnated over the past decade or so. This is caused primarily by the growth in the number of households exceeding population growth. In other words, people are choosing to live in smaller households by delaying marriage or cohabitation, divorcing or splitting up more readily, and having children while remaining unattached. These are economic decisions, and one reason people are making these decisions more frequently is that they feel they can afford them. They place greater value on going it alone than on living a more opulent lifestyle in a larger household.

Much of the growth in government



spending cited by Mr. Kilbourne involves transfers from workers to nonworkers, particularly retirees. The projections he employs all assume typical retirement ages will remain about the same despite greater longevity and improved health among the

elderly population. These cost increases could be reduced or eliminated by raising retirement ages. To the extent they are not, this is an economic choice to forgo increases in the standard of living while working in favor of a longer nonworking retirement.

The largest percentage cost increase in Mr. Kilbourne's table is for Medicare. A major factor in past and, most likely, future increases in Medicare spending is "Hail Mary" treatment for the very sick elderly. If a parent is diagnosed with cancer and the doctor advises that it's time to prepare for death, the typical American is outraged. This insistence on making heroic efforts on behalf of people who are probably terminally ill explains, in part, why we spend so much more for medical care than other developed countries with little to show for it in increased longevity. (This relates to Donald Armstrong's article as well.) As above, we make this choice because we can afford it.

DARWIN RHODES

• London • Hong Kong • Sydney • Mumbai • New York • Manchester • Leeds • Bristol •

Darwin Rhodes has been established since 1996 serving the needs of the actuarial profession, on a global basis. Darwin Rhodes carries out executive search assignments at senior level for clients. Our network of regional offices in the UK and worldwide enables us to identify the right individual to meet our clients' needs. Our team of local recruitment consultants are specialists within their field, including non-life, ALM, life, investments, banking or employee benefits, in both traditional and non-traditional areas.






For Americas
Suite 237, Level 3
75 Maiden Lane
New York NY10038
Tel: +1 212 402 7830
recruit@darwinrhodes.us

If you are a client requiring our services or an individual seeking career advice please contact the relevant office:

For UK, Europe, Middle East
32 Threadneedle Street,
London EC2R 8AY
Tel: +44 (0)20 7763 6261
actuarial@darwinrhodes.com

For Asia Pacific, India
Suite 802(A), Tower 1, Lippo Centre,
89 Queensway, Admiralty,
Hong Kong
Tel: +852 3101 0930
recruit@darwinrhodes.com.hk

Level 2, Raheja Centre Point
294 CST Rd, Near Mumbai University
Santacruz (E)
Mumbai 400 098 India
Tel: +91 22 5507 8764
recruit@darwinrhodes.co.in

For Australasia
Suite 10.03
46 Market Street
PO Box Q110, QVB
Sydney NSW 1230
Tel: +612 9231 7427
recruit@darwinrhodes.com.au

www.darwinrhodes.com
www.darwinrhodes.com.hk
www.darwinrhodes.com.au
www.darwinrhodes.us
www.darwinrhodes.co.in

Darwin Rhodes is an employment agency and a member of the REC

• London • Hong Kong • Sydney • New York • Mumbai • Manchester • Leeds • Bristol • Birmingham • Edinburgh • Shanghai • London • Hong Kong • Sydney • New York •

Our other needs being largely met, we have made the economic choice to spend large sums on medical care even when there is minimal hope of extending life appreciably.

So if the economic scenario outlined by Mr. Kilbourne comes to pass, this would be the result not of nefarious forces, but of our own economic choices. One could argue it would be better if these choices were made in the private sector through the marketplace rather than in the government sector through the political process. However, I don't think the resulting allocation of economic resources would be much different.

ERIC KLIEBER
CLEVELAND

Mr. Kilbourne is to be thanked for calling attention to the choice now faced by the American public—whether to continue on the path to a predominantly command economy or to choose a different course (“The Cost of Government Revisited,” January/February 2008). I believe he has failed to recognize the economic impacts of human nature, however, and that his prediction that the government will control 85 percent of the economy in 2100 should be adjusted downward, to about 70 percent.

I see three ways in which human nature will prevail over his predictions as the 21st century unfolds, with consequences perhaps as follows:

- ▶ Productivity will decline, relative to projections, as taxes and mandates soar, yielding a 2100 gross domestic product (GDP) of about \$600 trillion (rather than \$805 trillion).
- ▶ Compliance with regulations and other mandates will be replaced by evasion as the boot descends, yielding indirect government costs of 15 percent of 2100 GDP (rather than 20 percent).
- ▶ Creditors will be unable or unwilling to purchase securities offered by American governments, yielding interest payments that are 2 percent of 2100 GDP (rather than 6 percent).

The other direct costs of government will also be affected by the foregoing, of course, with results perhaps as follows:

- ▶ Essential government services (defense,

transportation, public safety) will presumably still be essential, requiring 15 percent of 2100 GDP rather than 11 percent (since a one-fourth GDP drop requires a one-third percentage increase to maintain an expenditure level).

- ▶ Social Security benefits may remain at 6 percent of 2100 GDP, on the grounds that retirees should suffer commensurately with producers as the total amount of goods and services declines.

- ▶ Government spending on health care (Medicare, Medicaid, etc.) may decline relative to projections, proportionately as well as absolutely—say from 21 percent to 18 percent of 2100 GDP—as medical services are rationed to all patients lacking in political influence.

- ▶ Nonessential government services (education, public employee pensions, postal services, etc.) may be expected to take a back seat to the foregoing, resulting in a decline to perhaps 14 percent, rather than 21 percent, of a relatively shrunken 2100 GDP.

We may not recognize the USA of the end of this century, as viewed from the beginning, but it does appear that the government will exercise rather less control over the people than some may fear (and others may wish).

FRED KILBOURNE
SAN DIEGO



Pension Funding Pros and Cons

In “The Case for Stock in Pension Funds” (*Contingencies* January/February 2008), David Kausch takes issue with our article in the January/February 2007 *Financial Analysts Journal*, “The Case Against Stock in Public Pension Funds.” Few *Contingencies*

readers will have read our article, and Mr. Kausch (understandably) doesn't explain it. We hope that our comments here will give readers a more balanced view of the risks and rewards of equity investment by defined benefit (DB) pension plans. (Our comments reflect a public plan context. We have addressed corporate plans, in which similar but not identical considerations apply, in an article in the February 2003 Society of Actuaries *Pension Section News*.)

Measurement of pension liabilities

We agree with Mr. Kausch in measuring an economic liability by discounting at the expected return of a “replicating portfolio”—an asset portfolio whose cash flows match those of the liability. A risk-free discount is not correct unless the liability payments are default-free and closely matchable by bonds. We differ with him in that we recognize only an accumulated benefit obligation (ABO), rather than a projected benefit obligation (PBO). Because the ABO doesn't reflect possible future salary increases, typical ABO payments can readily be matched with bonds.

Mr. Kausch offers an example of a salary-based pension with market sensitivity. In his binary example, if the economy is weak, the employee will receive no raise and, in one year, a lump sum of \$100,000. Meanwhile, equities will produce a zero return. If the economy is strong, she will receive a raise and a \$110,000 lump sum, and equities will rise by a known percentage. Mr. Kausch shows that the liability can be perfectly hedged, not by an all-bond portfolio but by the correct combination of equities and bonds.

Our article didn't address salary increases, because we used only a single fixed payment for illustration. But in other articles, we have explained why the ABO is better than the PBO as an estimate of the true economic liability. Just as there is no current economic employer liability for potential future pay increases, so too there is no current liability for the pension increases that those pay raises would create.

In determining a pay raise, the employer must understand that the true cost includes *both* the increase in pension and the increase in salary. Both increases result from the same employer decision, and the economic liability arises only when the pay raise is granted. In Mr. Kausch's example, the plan should fund and invest only for the employee's \$100,000 benefit. If and when the employee receives her raise, the employer should recognize and provide for the pension increase. Thus, the liability for a typical pay-related DB plan is measured by the ABO, which doesn't anticipate future salary increases. The replicating portfolio comprises bonds that match the timing, amount, and creditworthiness of the ABO cash flows.

Investment of pension funds

Here too we fully agree with Mr. Kausch's assertions that:

- › A cash-matching portfolio eliminates economic risk
- › Financial economics doesn't imply that all pension plans should invest in all-bond portfolios.

We differ in two main respects. First, as discussed above, we believe that bonds constitute the matching asset for typical DB pension liabilities. Second, though we agree that financial economics doesn't require liability matching under all conditions, we believe that, given the current "facts on the ground," financial economics identifies important benefits from a shift to bonds.

Mr. Kausch illustrates the drawbacks of cash matching with the case of an individual whose optimal portfolio includes equity. We agree that equity is desirable for the vast majority of individual investors. But financial economics teaches us to regard the pension plan not as an individual investor but as a pass-through vehicle by which taxpayers pay pensions to public employees. The plan has no interests or risk preferences of its own. Although taxpayers don't legally own a governmental pension plan, they are exposed to its investment performance. Our article ex-

plains why taxpayers who want equity exposure should prefer to take that exposure in their personal portfolios, rather than in the pension fund.

Several reasons drive this conclusion:

› **The federal tax code imposes lower taxes on equity returns than bond returns.** This disparity encourages taxpayers to take their bond exposure in tax-sheltered pension plans and their equity exposure in fully taxed personal portfolios. This isn't a universal conclusion. Under a different tax regime, financial economics might favor pension fund equity exposure even when it mismatches the pension cash flows.

› **Potential employee claims on surplus may lead taxpayers to prefer minimal risk in the pension fund.** Employees often contend that they are entitled to share in any investment gains in the pension fund, in the form of pension or salary increases. Whatever its merits, the employees' claim to a share of surplus has considerable traction and is often written into the pension plan document. In their personal portfolios, taxpayers bear all losses and have an undisputed claim to all gains. If they are fully responsible for pension fund losses but receive only a fraction of the gains, they will prefer to take their equity exposure directly and their bond exposure in the pension fund.

› **Equity investment, with its higher expected returns, invites the underpricing of pension liabilities.** The higher expected returns don't alter the liability—we all agree in measuring a liability by the matching portfolio, not by the actual investment. But the higher expected returns engender much economic mischief. Employee representatives and politicians

may argue for lower pension contributions or higher benefits with no extra cost. Plan sponsors may engage in uneconomic transactions such as the issuance of pension obligation bonds. Intergenerational inequity arises when early generations pocket expected equity risk premiums, while later generations bear the risks.

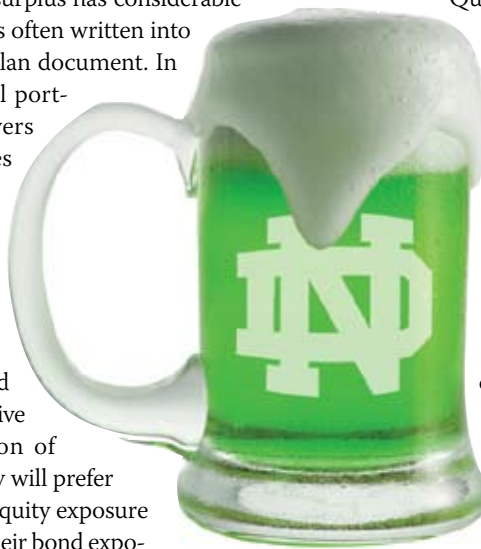
Mr. Kausch concludes, "Clearly, it wouldn't be prudent to switch a pension plan's investment strategy based on simplistic examples." We couldn't agree more. We hope that his and our writings will encourage readers to give these arguments the careful thought they require.

LAWRENCE N. BADER
CARY, N.C.

JEREMY GOLD
NEW YORK

Building Years

The main parallel pointed out by editor Linda Mallon ("Friday Afternoon Quarterback," January/February 2008) between Notre Dame and *Contingencies* magazine is that each experienced a building year (last year for the Irish and the current year for *Contingencies*). I am very confident that this magazine will carry the ball well, with an uninterrupted continuation of steady and exciting high performance. One thing I can say for sure is that I have never enjoyed reading an article by an editor more than I enjoyed reading this one by



Linda Mallon.

As far as ideas for improving ND's performance on the gridiron, I recommend first getting into a good conference, such as the Big 10 (11, 12 ...); or second having the fans drink green beer to ensure they're enjoying the games.

MELVYN E. BERMAN
BENSALEM, PA.

A Surprising Result

I was intrigued in the book review of *An Imaginary Tale: The Story of the Square Root of -1* in the January/February 2008 *Contingencies* by the surprising result that

$$e^{i\pi} = -1$$

But apparently this is a well-known result. I found one discussion at http://www.cut-the-knot.org/do_you_know/complex.shtml where the author substitutes $t = \pi/2$ into Euler's Formula

$$e^{i * t} = \cos(t) + i * \sin(t),$$

getting $e^{i * \pi/2} = i$. Raising both sides to the power i gives $i^i = e^{-(\pi/2)}$ = $e^{-\pi/2} = .2078...$

JERRY TUTTLE
SOUTH ORANGE, N.J.

Promises, Promises

I usually avoid writing letters to the editor, but I was surprised at the reaction of Dwight Bartlett and Haeworth Robertson in letters to the editor in the January /February 2008 issue.

My understanding is that the Social Security system and associated programs fell off the tracks in the 1970s when Wilbur Mills decided to index benefits without increasing contributions in a cynical ploy to enhance his presidential bid (which took on water when exotic dancer Fannie Fox did the same in the Tidal Basin).

As a result, there are gross intergenerational equities which Congress has not fixed, and from which our successors will suffer.

To see if the system is truly fair, I would like an answer to the following questions:

1. Did retirees from, say, 1977 to 1993, contribute enough actuarially to pay for the benefits they received and are receiving?
2. If not, how will the shortfall be covered in an economy where budget deficits are the norm and where resources are declining?
3. What happens if the normal gross national product (GNP) growth assumptions prove wrong due to oil shocks,



terrorism, or other “nonlinear” events which would cause GNP to decline?

This is a serious issue that, along with other government policy matters, needs actuarial guidance.

What is the possibility that the profession could take an honest look at the promises made by the private and public sectors (pensions, welfare, health care, education, etc.) versus the future resources available to pay for them (GNP, tax rates, productivity, etc.)?

LEE SMITH
GENEVA, ILL.

How Do I Love Thee?

Contingencies is an excellent publication that is increasingly relevant and interesting, even for this member who has lived in Sweden since 1972 and who now is mostly retired.

A few comments on some of the content in the November/December 2007 issue:

- ▶ “Coming Full Circle” by Robert Rietz and Robert Bacher hits the nail on the proverbial head in offering a clear and useful explanation of why defined benefit plans undeservedly have come into disrepute.
- ▶ “Health Care Reform” by Joseph Paduda reminds the reader of key comparative facts about the costly debacle of health care in the U.S.; facts that have been known for decades and which a single-payer, tax-financed, universal health care system could significantly alter.
- ▶ “Vase or Two Faces? Policyholders and Insurers View Their Coverage” by Rhonda Orin pedagogically demonstrates why the old joke about insurance policy conditions

(“The large print giveth, and the fine print taketh away”) is more than simply a cynic’s view of insurance and why our industry, for good reasons, has such a poor reputation.

▶ “Candor, Conversation, and Commitment: Building Trust in Corporate Communications,” by Patrick Field and Joshua Gordon proposes a “3-C” policy for building trust in corporate communications, something with which I wholeheartedly agree. The only problem is that it uses as its example the decision by a major life insurance company’s board and senior management that the company should demutualize. The article assumes that this is an intrinsically positive thing to do as it only presents the case for demutualization and assumes that there is no real case against (apart from a possible undervaluation). From 1994 until 2002, I sat on the Board of ACME, the European Association of Co-operative and Mutual Insurers. We carried out detailed studies of insurance company performance over several years throughout Europe and could conclusively show that mutuals as a whole outperformed stock companies (of course, with many individual exceptions). Also, that an overwhelming number of demutualizations were carried out to meet the interests of boards and managements, not the policyholders, and did not produce promised benefits; indeed, in many cases the demutualized company was soon devoured by another stock company.

My sincere appreciation for a most stimulating actuarial magazine.

ELLIS WOHLNER
STOCKHOLM, SWEDEN