SOCIETY OF ACTUARIES

The Actuary

FEBRUARY/MARCH 2011
VOLUME 8 ISSUE 1

RETIREMENT SECURITY

FOCUSING ON RETIREMENT RISKS

2010 Year in Review

CHANGING SEASONS OF RISK ATTITUDES

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The answer is in the employees

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DON'T BE LEFT BEHIND!

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THERE ARE THREE EASY STEPS:

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You must attest or be considered non-compliant. Go to ***SOA.org/attestation*** for more information.

Feb/Ma

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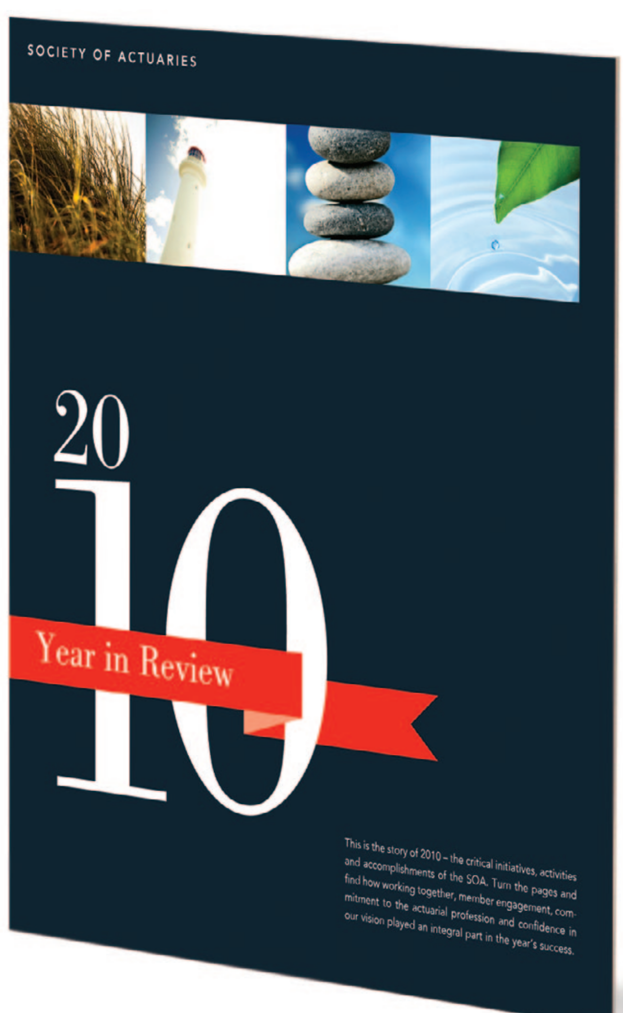
COVER STORY

DEPARTMENTS

FEATURES



Welcome

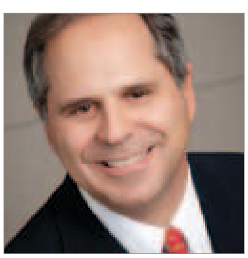
A WARM WELCOME TO THE NEW CONTRIBUTING EDITORS!

Corin Chapman

Peter Hayes

David Ingram

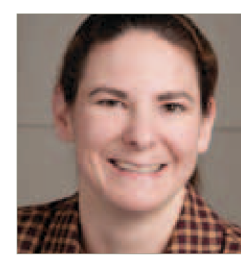
Cathy Lyn



James Ramenda

Sue Sames

Ross Winkelman



Ruth Ann Woodley

BY SAM PHILLIPS

THIS ISSUE BEGINS THE TENURE of *The Actuary's* new contributing editors. Their main job is to provide content for the magazine. Each was carefully selected to represent their area of expertise. SOA staff for *The Actuary* is confident the editorial content of the magazine will remain as solid as ever under the leadership of the new contributing editors. Following are quotes from each of the new contributing editors about what attracted them most to the role of contributing editor or what influence they hope to have on the magazine. The SOA staff thanks them all for lending their time and expertise to the SOA's #1 communication vehicle as voted by the SOA members.

CORIN CHAPMAN

Q: What contributions would you like to make to the magazine during your tenure?

A: Often, as actuaries, we tend to concentrate too much on the technical aspect of issues while failing to appeal to a broader audience. As someone with a relatively short tenure within the profession, I plan to ensure that the articles are thoughtful, intelligent and interesting, but also continue to appeal to all levels of actuarial expertise including individuals outside the actuarial career. Additionally, I would like to concentrate on diversifying the subject matter which is covered by the magazine by reaching out to actuaries working on more non-traditional projects and in unique subject areas.

PETER HAYES

Q: What about the role of contributing editor attracted you most?

A: My history with the SOA has been entirely on the Education side, as opposed to "growing up" through the sections. In the last few years, there have been efforts to integrate some of the current thinking, knowledge and expertise of the sections into the exam process, and this was really my first insight into the breadth of SOA activities. It is easy to get lost in your own silo, and in so doing fail to recognize the contributions—intellectual and otherwise—that others bring to the profession. The role of contributing editor will allow me to continue to expand my view of the actuarial horizon across practice areas, and further develop insights into the roles that actuaries are playing in fields far beyond my own. It will also allow me the opportunity to watch the evolution of SOA-sponsored initiatives like Retirement 20/20 and the Centers of Actuarial Excellence, both of which have the potential to not only make very practical contributions that extend way beyond the profession itself, but to help elevate our profile in the process. Finally, at a more person level, our profession provides us an opportunity to do work that our clients value, and this will be so only as long as the profession remains relevant. In this regard, I have an interest in providing support for the profession, and I hope the role of contributing editor will allow for a modest contribution towards that support.

DAVE INGRAM

Q: What about the role of contributing editor attracted you most?

A: I've been a big fan of *The Actuary* my entire career. I was particularly happy about when it went from being a black and white newsletter to a four-color magazine that instead of substituting pretty pictures for meaty content, it went the other direction and actually improved the content in addition to adding a great look. The thing that keeps a profession fresh in its approach to the ever-changing world is a continuing discussion of future issues and solutions. It is exciting for me to become more directly involved in that discussion.

CATHY LYN

Q: How do you plan to influence the magazine?

A: As our membership and work both experience more global influences, I hope to bring this perspective to *The Actuary*. Having worked in England, Jamaica and Canada, now co-vice chair of the IAA Supranational Relations Committee and a member of the International Association of Consulting Actuaries and President of the Caribbean Actuarial Association, I shall be pleased to use this wide experience to source authors and write for *The Actuary* as we forge ahead to new horizons. We can make stronger links with other international professionals to make a contribution to policy-making that affects the assumptions we make to do our work. *The Actuary* can be one of our voices to engage these other professionals.

JAMES RAMENDA

Q: How do you plan to influence the magazine?

A: I see *The Actuary* as the most centralized communication from the Society at a time when information is being diffused through a variety of media: newsletters, webinars, blast e-mails, LinkedIn, etc. It's important to me that *The Actuary* is the place where the truly big ideas are presented, in which everyone has a stake, and everyone knows that if it's important, it will be covered here.

SUE SAMES

Q: What about the role of contributing editor attracted you most?

A: The opportunity to help shape discussions about critical issues facing the profession was one of the most appealing aspects of the role.

ROSS WINKELMAN

Q: What about the role of contributing editor attracted you most?

A: The best part about being a contributing editor is the chance to work with authors. The actuarial profession is filled with talented and interesting professionals, with incredible ideas and the energy to share their vision with others. It's an especially important time for actuaries to contribute because of the economic environment and the health care landscape. I'm very excited to see what ideas come forward over the next several years.

RUTH ANN WOODLEY

Q: What about the role of contributing editor attracted you most?

A: I've volunteered as an SOA Section newsletter editor in the past and loved finding and shaping those articles, so doing that on a larger scale was very appealing. Our industry is experiencing change as rapidly as the rest of the world today, so there is no shortage of fascinating topics that are outside of the day-to-day technical aspects of being an actuary. The chance to help bring some of those to life (and paper) for people is very appealing! A

Editorial

MAKING THE CERA A GAME-CHANGER

BY JAMES RAMENDA

ANYONE WHO DOUBTS ACTUARIES' abilities to anticipate and plan for future events need only consider the SOA's ultra-timely development of the CERA credential. The first CERAs were minted just prior to the outbreak of the worst financial crisis in 70 years and through great effort and leadership by the SOA it appears likely the CERA credential will be the recognized global standard for rigorous analysis of enterprise risk. The fact that the financial crisis quickly turned into a general business crisis across many industries and an economic crisis across many countries strongly reinforces that the CERA skill set should be highly valued beyond financial services. This notion dovetails very well with the oft-stated desire by many CERAs/actuaries to expand their roles beyond the traditional insurance, health care and pension areas.

How does this potential for growing the scope of our profession become a commercial realizable opportunity? The first step is to recognize that businesses deal with critical issues through very well-defined governance processes. The professions that have the most prominent "seats at the table" are those whose services are embedded in the governance process. Presently, the professions that best fit this description are lawyers and accountants. Lawyers, of course, are indispensible because they pursue/defend litigation, advise companies and their directors how to avoid plaintiff litigation, prepare regulatory filings, etc. Accountants are most visible in their traditional role of providing the independent external audit and accompanying opinion. But as we see in today's world, accountants now play a much-expanded role in the governance process, thanks in large part to Sarbanes-Oxley. This goes beyond the preparation of the famous "boxes" that need checking. For example, the SEC requirements for the board role of Audit Committee Financial Expert can be filled quite precisely by an accountant with audit experience.

The next step in examining the opportunities is to note the formal aspects of how these professions take part in governance. Certainly, there are people from all walks of life on boards, as well as providing services to boards. But the legal and accounting professions do so in a very well-established, formal sense. They are not just smart people rendering advice as needed. Their services are defined (for example, legal opinions for lawyers, audit opinions for accountants) so as to specifically require the credentials they hold, and these services are integral parts of the annual cycle of governance activities. For the accounting profession, in particular, this enviable position is even more impressive when one considers that many of the services accountants now perform didn't exist in the past and, indeed, were established to address the scandals of 10 years ago (Worldcom, Enron, et al.) that were, in part, accounting-related. In short, the scandals were a "game-changer" for the accountants, but ultimately in a good way—one of the great turnarounds in American business history.

The game-changing idea for CERAs is this: Require as part of the governance process an "independent risk audit" performed by a CERA. This would be an audit of the risk management process that would be analogous to the independent accounting audit, including formal opinions. This would not replace internal ERM but would function in the same way the independent accounting audit works relative to internal accounting. While this proposal may seem a long way from where we are today, its merits seem compelling.

1. The accounting opinion is a point estimate, one selected from among many estimates that are plausible and many more still that are possible. The risk opinion would recognize this entire range of possibilities and associated probabilities. Companies fail because of tail risk, not outcomes close to best estimates or centers of ranges

2. If somehow one were able to "redo" the governance process starting with a blank piece of paper, which audit would be more useful? Since the point estimate is a subset of the range analysis, it would seem clearly to be the latter. If anything, it seems more logical that the accounting function should be part of the risk management process, the latter being a more comprehensive attempt to view all of the risks faced by the firm, including accounting risk.

3. Internal ERM works if the entire corporate culture is accepting of it. Unfortunately, this means it will tend to fail in cases where it is most needed. The most visible example provided by the financial crisis is Lehman, where the hidden leverage posed by so-called Rule 105 Repos was dutifully reported by an internal financial officer to his superiors, who promptly fired him. An external ERM audit very well may have flagged this situation, even as it passed muster with the accounting audit.

An important aspect of this proposal is that it is not limited to insurance, just as the formation of Risk Committees is not limited to insurance. After all, that's what systematic risk is all about, to say nothing of the non-systematic risks that arise in all industries. The CERA having its roots in the financial sector is actually fortunate from a timing perspective in that systematic risk, for now at least, is associated most commonly with this sector.

James Ramenda

When one considers the alternative, leaving ERM to internal processes, augmented or perhaps not by external experts, the outcome seems fuzzy. There is a wide array of risk management credentials out there, to say nothing of others capable of shifting into this space—CFAs, MBAs, quants—and no guarantee that the practices that evolve will be standardized or effective. Creating a formal role in governance as outlined here is no small task, but with so many forces converging that could lead to a game-changing outcome for CERAs/actuaries, it would seem if ever there is a time for this idea, it is now. If we agree that ERM is critical to the governance process, and we agree the CERA is the most rigorous global standard, why shouldn't we have a seat at the table? A

James Ramenda, FSA, CERA, is managing director for Northington Partners Inc. He can be contacted at *jr@northington.net.*

Letter From The President

COLLABORATION = TEAMWORK

BY DONALD J. SEGAL

TWO-THIRDS OF YOU READING THIS belong to at least one SOA section—in fact, most of you belong to more than one section. (We have 19 sections and over 35,000 section memberships.) I'm always impressed by the inspiration, innovation and ideas that arise from our sections.

At our 2010 Annual Meeting, I talked about my focus for the year to come—what I've dubbed "The Five C's." They are: Commitment to the Profession, Communication, Customer Focus, Continuing Professional Development, and Collaboration.

Collectively, our sections embody the five C's—they are committed to our profession, they communicate regularly with their members, they have a strong customer focus, and they are a large source of continuing professional development.

What I'd like to talk about today is collaboration.

You might think of each section as an entity unto itself; however, the focus of our sections runs both deep and broad. And it's important to have both!

We have sections where the subject matter runs deep and the material is practice- or discipline-specific. We also have sections that cross areas of practice, offer techniques and tools, and provide career and business skills.

Often the most tangible benefit of section membership is the newsletter you receive. However, sections are more than the newsletters they produce!

Sections serve an important role in identifying emerging strategic issues—they are the grassroots "eyes and ears" of the SOA. For example, Retirement 20/20 and the Untapped Opportunities for Actuaries in Health strategic initiatives were initiated at the section level.

These are efforts that have the potential to help the SOA grow and expand the influence of the profession.

Have you attended a session at one of our major meetings? Chances are you can thank a section for producing the content of that session.

Not only do sections produce a large amount of the content at our major meetings, they also collaborate to develop that content. For example, at our 2010 Annual Meeting many sessions (over 20 percent) were cosponsored by multiple sections.

Our sections collaborate in a number of ways—they produce webcasts, research, networking opportunities and reach out to local actuarial clubs.

Collaboration even extends across borders. Our International Section works with local actuarial groups worldwide through its ambassador program to assist in carrying out the SOA's international programs and functions as a link between the SOA and national actuarial organizations and actuarial clubs. The International Section, along with the Financial Reporting Section, are also a source of continuing education in various countries, and they provide information on financial reporting.

A number of sections have strong ties to the American Academy of Actuaries. For example, the publication *Health E-News* is a joint effort of the SOA Health Section and the Academy.

The Pension Finance Task Force is jointly sponsored by the SOA Pension Section and the Academy Pension Practice Council. The

Joint Risk Management Section is cosponsored with the Casualty Actuarial Society and the Canadian Institute of Actuaries.

Many sections have relationships with non-actuarial groups. For example, the Marketing & Distribution and Product Development Sections work with LOMA and LIMRA to plan the spring Life Insurance Conference and to cosponsor research. The Product Development Section, LOMA and LIMRA cosponsor seminars for audiences of actuaries and non-actuaries alike.

Many sections are working to provide content to local actuarial clubs by developing presentations that clubs can deliver to their members on CPD-eligible topics.

Sections are a great part of the fiber that makes up the SOA. Of course, we should always be looking at ways to make the section experience better.

First, if you are not already a member, I recommend joining a section or sections in your area(s) of interest. There's strength in numbers. More people=more ideas=more growth as a profession.

Second, get involved! Sections provide a great opportunity to contribute to your area of expertise in the profession. Participation in section activities will help you expand your network.

Finally, I encourage sections as a whole to look at new opportunities to partner with others—whether it's with another SOA section, another actuarial organization, or with relevant organizations outside of the actuarial profession. In the future, I see the opportunity for our sections to partner with sections and committees within the International Actuarial Association. This type of partnership has the potential to create new opportunities for our members and benefit the international actuarial community.

Donald J. Segal

Our world is changing, and there are great opportunities for us to look outside of our areas of practice to expand the influence of actuaries worldwide. It all ties in to our vision for actuaries to be the leading professionals in the measurement and management of risk. A

Donald J. Segal, FSA, FCA, MAAA, EA, is president of the Society of Actuaries. He can be contacted at *dsegal@soa.org*.

IMPROVING RETIREMENT SECURITY

BY ANNA RAPPAPORT, STACY SCHAUS AND JEFF CLYMER

SESSION 79 at the 2010 SOA ANNUAL MEETING focused on the risks of retirement and how those risks impact attaining a secure retirement in a defined contribution world. This article is based on the content of that session.

TODAY, MANY AMERICANS who participate in employer-sponsored retirement plans will have the largest portion of their employer-provided retirement income delivered through defined contribution (DC) plans. The relative number of DC plans delivering the primary source of employer-sponsored retirement income is increasing each year.

The goal of any retirement system is to provide adequate resources to replace income before retirement for the period of retirement. The reasons why the funds may not be adequate include:

- Not saving enough money;
- Inadequate investment returns and poor investment strategy;
- Leakage—using funds too early, possibly as a result of cashing out savings as participants change employers, taking loans and not repaying them, or requesting hardship distributions;
- Premature death of the employee, leaving the family without adequate funds for retirement;
- Disability before retirement;
- Early retirement;
- Outliving retirement resources because they are used too quickly;
- Job changes, which disrupt the program of retirement savings; and
- Period of unemployment.

Some of these risks can be dealt with through DC plans, whereas others may require interventions or actions outside of the plan. It is important to recognize that in a DC environment, the plan is a part of the path to retirement security, but it may need to be supplemented by other risk protection and actions outside of the plan.

WHERE DO WE STAND TODAY?

At the majority of larger companies, we have seen a major shift from defined benefit (DB) plans as the primary employer-provided retirement vehicle to DC plans playing this role. Hewitt Associates' Real Deal 2010 Study[1] analyzed the retirement savings of 2.1 million active employees who were eligible for 401(k) plans. This study estimated that retirement resources from the DC plan (if no DB plan) and other savings would need to equal 11 times pay at age 65 to be on track for an adequate retirement. Based on actual savings behavior and the provisions of these plans, only one in five employees was projected to be on track at age 65. The average shortfall for those who are not on track was 2.4 times pay at age 65. To eliminate or reduce the shortfall, employees will need higher levels of savings and/or later retirement. (Of course this group is better off than nearly half of American workers who have no employer-sponsored support for retirement. In addition, the Hewitt data may overstate savings further as it captures only large employer plans which tend to offer higher benefits than smaller employers.)

For workers who are likely to come up short in retirement savings, they may say that they intend simply to work longer, yet they do not seem to have a good financial grasp of the implications of doing so. The Society of Actuaries Retirement Risk Surveys ask about the implications of working three years longer and several different kinds of impacts. Other than the need for health care benefits, the understanding of the issues seems very limited. Although there is an increased perspective on working longer, about four in 10 employees end up retiring earlier than planned, often due to job loss, poor health or family members needing care.[2]

The retirement savings gap is even larger for women because they are expected to live longer. The average 2.4 times pay gap at age 65 breaks down as 3.1 times pay for women and 1.8 times pay for men in the study. Other contributing factors to the greater gap for women are women tend to receive lower pay, spend fewer years in the labor force, save a lower percentage of pay, and invest more conservatively.

Social Security benefits provide the floor retirement benefit for nearly all Americans. Hewitt estimated that these benefits are worth 4.7 times pay at age 65 for the average participant in the Real Deal study.

Social Security is the only form of retirement income received by about four in 10 older women, and, for many, makes up more than half of their total retirement resources. Fortunately, Social Security provides an inflation-indexed lifetime income for retirement, and also provides survivor and disability benefits. Notably, the relative projected income replacement of Social Security benefits in the United States is lower than for Europe, with the United States at 38.7 percent replacement of median income, Europe at 48.5 percent.[3] This reality places even more emphasis on the importance of American workers saving effectively in their DC plans.

Among older Americans (ages 55–64) non-financial assets, primarily housing, account for about 70 percent of their wealth (excluding the value of Social Security and DB benefits).[4] Many people have not carefully evaluated the retirement implications of having such a heavy concentration of their wealth locked up in housing. What's more, other research shows that most workers don't plan for retirement until they are within 10 years of the date they wish to retire.

CHANGES IN RETIREMENT FUNDING

Large employers who have ongoing DB plans have long-term annual DB costs of about 3 percent to 6 percent of covered pay, an average maximum available match of 3.5 percent of pay and another 0.5 percent of pay going into other DC plans, so they spend a total 7 percent to 10 percent of pay for retirement benefits.[5] In contrast, employers with only DC benefits have an average maximum available match of 3.7 percent plus 3.0 percent of pay in other DC costs for a total of 6.7 percent of pay for retirement benefits.[6]

One in four workers employed in a company offering only DC retirement benefits is not saving and not accumulating resources for retirement.[7] In spite of the downturn, the participation rate in DC plans remained relatively constant from 2007 through 2009.[8]

Of those employees who have access to a plan with a match, 38 percent are saving above the match threshold, 33 percent are at the maximum match percentage, and 28 percent are below the match threshold.[9]

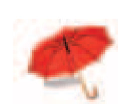
Minorities have less saved in 401(k) plans, and have bigger gaps as they prepare for retirement. One study showed an average 401(k) account balance for employees earning $30,000 to $59,999 of $35,551 for Caucasians, $22,017 for Hispanics and $21,224 for African Americans.[10] Disparities in retirement security were studied by the 2010 ERISA Advisory Council. The overall disparity on a population basis is larger than this since rates of coverage are lower for minorities since they are more likely to be in jobs without benefits.

The economic environment since the inception of 401(k) plans has likely influenced the plan investment design. 401(k) plans were introduced in 1981 at the beginning of one of the greatest bull markets in capital market history. Given this market environment, it's not surprising that plan sponsors offered many equity investments to their participants. Today, more than 70 percent of the investment options offered in DC plans are equity offerings.[11] Offering such an undiversified line-up of higher volatility investments may subject participants to inappropriate risk for retirement savings.

The combination of pure DC plans and volatile investment markets has put many participants in a difficult situation and placed their retirement income security on a roller coaster ride. For one group of participants at ages 60+, 2008 average returns were -22.6 percent and 2009 returns were 18.1 percent. They recovered part of their losses, but balances were still down.[12]

Most DC benefits are paid out as lump sums, with larger balances typically rolled over to Individual retirement accounts (IRAs). For people with larger account balances, these funds tend to stay invested as long as possible, and then they are later withdrawn in accordance with the tax rules. For people with modest (and often inadequate) savings, it is not uncommon for DC balances to be used as emergency funds, in the event of disability, for instance.

Disability benefits are provided separately from DC plans, but the DC balance may be paid out on termination of employment, which often occurs during long-term disability. The overall retirement system does not do much beyond Social Security to ensure adequate retirement to disabled Americans. Many salaried employees have long-term disability benefits, but they do not protect against using retirement funds too early. There are gaps in overall disability protection for many people.



THE NEW NORMAL

In a new normal environment, investment market returns are anticipated to be lower than what we have experienced in the past while the market volatility and risk of sudden market shocks may be greater. Downside risks considered in the definition of the new normal include market shocks, "flation" and household savings spikes. The shocks include natural disasters, terrorism and political tensions among nations. Flation is defined as central banks overshooting or underreacting, triggering inflation or deflation. While less probable, there is potential for upside in the markets spawning from forces such as emerging markets, innovation and productivity gains, and effective policies in some nations.

The traditional measures and communication of investment returns show ranges of one-, three-, five-, 10- and 20-year returns and make it appear that risk dissipates the longer the investment horizon. For instance, one-year returns on the Dow Jones Industrial Average from 1930 to 2009 range from more than negative 50 percent to plus 60 percent. The range in returns tightens as we consider longer rolling periods. However, this analysis is flawed for DC investors as it fails to take into account the amount of money they may have invested at the time as well as the sequence of returns. Risk does not dissipate over time; rather it increases as the participants have more money at stake and they near retirement—a time at which they no longer have the number of years to work or "human capital" to make up for market losses.

An alternative view is to consider the time frame of investing. As we evaluate historic per-

> **THE COMBINATION OF PURE DC PLANS AND VOLATILE INVESTMENT MARKETS HAS PUT MANY PARTICIPANTS IN A DIFFICULT SITUATION. …**

For more information about DC plan design (including structuring target-date strategies with enhanced risk mitigation) please go to *www.customtarget.net* or call the PIMCO DC Practice at 1-888-845-5012.

formance of the equity markets, we observe many extended periods of time where the markets failed to return anything to investors. Over the past 209 years (1801 to June 2010), 173 years were in spans of at least 15 years before the next real high. DC participants currently are experiencing such a period given markets have not appreciated beyond the level reached in 2000. Those nearing retirement over the past decade unfortunately did not benefit from the market appreciation that fueled investment growth of earlier generations.

RESEARCH HAS REPEATEDLY SHOWN THAT THERE ARE GAPS IN KNOWLEDGE ABOUT RETIREMENT PLANNING.

What's worse is many investors have been hurt by sudden, unexpected market shocks or "black swans." Most of the asset allocation and retirement income modeling conducted in the market employs lognormal distribution assumptions, i.e., a normal bell curve of observations. Yet when we consider actual market performance using the Dow Jones average from 1916 to 2009 relative to the lognormal expectation, we see a mismatch in extreme days. For example, the lognormal distribution predicted that over a long time frame using the daily change in the Dow Jones Industrial Average (DJIA) 1916–2009 (23,451 trading days) there should be only six days of market change greater than 4.5 percent, but there were actually 388 days with changes in market value greater than 4.5 percent. Further, the distribution predicted virtually no days with market change greater than 7 percent, but there were actually 53 days. This analysis illustrates the danger of relying on normal probability assumptions in modeling retirement income replacement, as well as underscores the importance of protecting participant assets from sudden market shocks.

New normal investing requires models with lower return assumptions, higher volatility and stressing with market shock events. Investment management needs to reach beyond U.S. equity markets to broader asset and risk diversification, including global emerging as well as developed bonds, equities, real estate, commodities, Treasury inflation protected securities (TIPS) and other securities. Further, introducing risk hedging strategies such as buying out of the money equity put options or other indirect hedges is important to cushion retirement assets from market shocks.

WHAT PEOPLE KNOW AND DO

Research has repeatedly shown that there are gaps in knowledge about retirement planning. Many people do not plan at all and for those who do, many have too short a time horizon. Some of those who plan do not support their effort by performing calculations of alternative scenarios. The Society of Actuaries 2009 Post-Retirement Risk Survey again highlighted that the major method people say they use for managing risks is to reduce spending, and there is little focus on risk management products. Many things change during retirement, but often people do not focus on that.[13]

THE FUTURE

We need to focus on improvements within DC plans, getting employees to use them more effectively, and some actions that are outside the plans but affect security in retirement. Improving security within the context of the existing policy environment requires a combination of employer and individual action. Further improvements are possible

Replacement Ratios for 40-Year Employee

WITH SAVINGS RATES OF 6 PERCENT TO 9.8 PERCENT PLUS EMPLOYER MATCH OF 3.5 PERCENT

Investment Strategy	Median Replacement Ratio	1% Percentile	99% Percentile
Stable Value Only	36.6%	21.0%	58.4%
TIPs Only Portfolio	36.0%	21.0%	58.2%
Stock/Bond Target Date	58.5%	17.0%	171.2%
Diversified Target Date	57.4%	19.6%	146.7%
Target Date Fund with Tail Hedge Added	60.8%	27.9%	128.6%

Chart info: Based on stochastic modeling for $50,000 employee salary with 1 percent real wage increases over 40 years and average contribution rates by age.

through public policy changes and a more robust market of products to support retirement savings, accumulation and payment.

BEEFING UP BALANCES

There are two elements of this challenge—getting more people to save, and getting larger amounts contributed on behalf of those who do save. Auto-enrollment and auto-increases provide for a path to getting more people into plans and getting those who are not good savers to gradually increase their savings. Among large employers, the participation rate in auto-enrolled plans is 86 percent compared to 65 percent in plans without auto-enrollment.[14] As discussed below, the amount that needs to be saved to give a reasonable chance of adequate retirement funds varies with the investment strategy.

Employers can improve their DC plan outcomes by including auto-increases and expanding their match. Offering a match encourages people to save, and increasing the match both increases the employer's contribution, and often what employees will save. They can also help participants understand what level of savings is needed to have a reasonable expectation of adequate funds for retirement, particularly when they consider the new normal investment environment.

NEW NORMAL FRIENDLY FUNDS

There are five different approaches to managing DC assets over a participant's lifetime to consider: stable value only, TIPS only, and three types of target-date glide paths (e.g., asset allocation that becomes more conservative as the participant ages). The first glide path was made up of stocks and bonds, the second added real assets (TIPS, commodities and real estate investment trusts (REITs)) as diversifiers, and the third added "tail risk hedging" (e.g., equity puts). The chart above shows the results of hypothetical modeling as to how the various investment approaches may turn out in terms of replacement income percentages.

These results, of course, depend on the construction of the model and the assumptions used. They demonstrate that participants may be more likely to reach an income replacement target given a diversified glide path that includes tail-risk hedging strategies. The chart shows the highest median expectation of 60.8 percent using this diversified and risk-managed approach. Notably, the added risk management brings up the lowest expectation to a 27.9 percent replacement rate, which is an improvement relative to a stable value or TIPS only portfolio.

It is important to think about what messages should be given to participants to encourage more saving. Messages can be framed to encourage saving for a good return based on median expected returns, but that would mean falling short half the time. A better way to think of this is to consider the question: "What do you have to do if you want to increase the certitude of having enough retirement income to meet a 50 percent income replacement goal?"

REDUCING LEAKAGE

One of the challenges today is preserving amounts saved for retirement for that purpose. Too much of the amount saved ends up being used before the time of retirement, and as an emergency fund. Some of the ideas to think about as we focus on reducing leakage would be:

- Encouraging the use of loans rather than hardship withdrawals;
- Modifying loan rules to make them portable (transferable between plans) and extending repayment periods;
- Encouraging plan sponsors to allow repayment after termination; and
- Provide education and modeling tools.

This is an area where some policy changes may be desirable.

MOVING BEYOND THE PLAN

Some of the things for individuals, employers and financial services providers to think about in trying to prepare individuals for an adequate retirement include:

- More long-term planning;
- Encourage increased savings via communication and/or auto-escalation programs;
- Improve diversification and risk management in asset allocation defaults;
- Re-examining solutions for the payout period, and providing more options for structured solutions and a portfolio of options;
- Prepare people to work longer, and keeping our skills up-to-date;
- More consistent focus on emergency funds so that 401(k) plan funds do not become emergency funds;
- Enhancing approaches to disability benefits so that when they work next to DC plans they support appropriate lifetime security. The disability benefit ideally should support continued saving for retirement until expected retirement age, but this is very rarely explicitly done when benefits are provided through DC plans; and
- Re-examining whether survivor and death benefits are adequate.

Policymakers may wish to re-examine policy for people without employer-sponsored plans, policy for the distribution period, and loans and safe harbors.

An examination of the current environment shows that many people are saving in DC plans, but for the population as a whole, the results are mixed. There is a lot of work to do, requiring effort on the part of plan sponsors, individuals, service providers and policymakers. Research on behavioral finance leading to new plan management ideas and research on investments leading to new approaches to asset management open the way to achieving better results. By working together, we can encourage plan sponsors to update plans, and we can encourage people to save more, focus on risk more effectively, update their investment options and not use their funds too early. The existing system offers a base on which we can build to enhance the retirement security of today's workforce, who will be tomorrow's retirees. A

AN EXAMINATION OF THE CURRENT ENVIRONMENT SHOWS THAT MANY PEOPLE ARE SAVING IN DC PLANS, BUT FOR THE POPULATION AS A WHOLE, THE RESULTS ARE MIXED.

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ENDNOTES:

1 Hewitt Retirement Income Adequacy at Large Companies: the Real Deal 2010. The 2.1 million employees included were from 84 larger companies. Their average age was 39 and their average pay was $71,200.

2 Employee Benefit Research Institute, Retirement Confidence Study series.

3 PIMCO Research using OECD Pension Models.

4 Society of Actuaries, Segmenting the Middle Market Retirement Risks and Solutions, Phase 1 Report, 2009.

5 Average based on 248 large employers who offer defined benefit plans for newly hired salaried employees and are included in Hewitt's 2010 Spec Book.

6 Average based on 504 large employers who offer only DC plans to newly hired salaried employees and are included in Hewitt's 2010 Spec Book.

7 Hewitt 2010 Universe Benchmark.

8 Hewitt 2010 Universe Benchmark.

9 Hewitt 2010 Universe Benchmark.

10 401(k) Plans in Living Color, Hewitt and Ariel Capital, data is as of Dec. 31, 2007 and based on the companies who contributed their data to this study.

11 PIMCO.

12 Hewitt 2010 Universe Benchmarks.

13 Society of Actuaries Risk and Process of Retirement Surveys.

14 Hewitt 2010 Universe Benchmarks.

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Changing Seasons

OF RISK ATTITUDES

BY DAVID INGRAM AND
DR. MICHAEL THOMPSON

RISK ATTITUDES ARE AN EXTREMELY IMPORTANT driver for financial decision making. The authors talk about how and why those risk attitudes keep changing with experiences and especially with surprises.

ON JULY 21, 2010, BEN BERNANKE, the chairman of the Federal Reserve, said that he thought that the economy was "unusually uncertain." Business leaders are reporting that there is relatively little investment going on by U.S. businesses. Companies are paying down debt and building up cash. Things are just too unsettled, too unpredictable for them to feel comfortable making commitments.

Just three years ago, Charles Prince made the now famous statement to a Hong Kong reporter regarding Citigroup's participation in the U.S. subprime mortgage market, "*As long as the music is playing, you've got to get up and dance, [and] we're still dancing*." That statement represented almost the exact opposite approach to business, a compulsion to participate in the market.

In between, U.S. businesses did a remarkably quick adjustment to a shrinking level of economic activity. Payrolls were trimmed, jobs were shed, benefits curtailed and businesses returned quickly to profitability in a no-growth economy.

If you look carefully enough, you will also find firms who avoided participating in either the high growth of the boom, the cuts of the bust or the paralysis of the uncertain environment. These firms seem to just keep steering their company carefully between the rocks, avoiding both shipwrecking rocks, fast currents and eddies.

But you can feel the sea change in the prevailing opinion of the economy. In a free market economy, this prevailing opinion is formed, not by edict but as individual managers and separate firms each reach the conclusion that some prior way of thinking is no longer working for them. They also notice that other managers and other firms with different attitudes are doing better (or less worse). These individuals and these firms all had firm opinions of how the world worked and therefore how best to run their firms that were formed based upon hard earned experience and careful perceptions.

Even in the best of times or the worst of times or even in "unusually uncertain" times, that prevailing opinion is never unanimous. In all times, these opinions about the environment and especially about risk in the environment tend to fall into four categories or risk attitudes. They are:

- Pragmatists who believe that the world is uncertain and unpredictable,
- Conservators whose world belief is of peril and high risk,
- Maximizers who see the world as low risk and fundamentally self correcting, and finally,
- Managers whose world is risky, but not too risky for firms that are guided properly.

(See "Full Spectrum of Risk Attitude" in the August/September 2010 issue of *The Actuary*.)

Changes come to these risk attitudes via the process of surprise. Surprise is the persistent, and very likely growing, mismatch between what we expect to happen based upon our chosen strategy and what actually happens. Surprise is the difference between Knightian risk and uncertainty.[1] If there is no uncertainty, there should never need to be a surprise. But there clearly is uncertainty because over and over again, we are surprised.

When we all have the exact same expectations, then we are all surprised at the same time. But at any point in time, there are firms and individual managers with totally different risk attitudes. So there is a varied and varying set of surprises that are actually happening at all times. In market terms, we might expect a moderate market with fluctuations that follow past experiences, an uncertain market with unpredictable volatility, a market boom when everything seems to be going up or a recession when everything seems to be going down. Different business strategies are usually chosen because of an expectation of a market in one or the other of those states. This means that surprises, when they come, can come in a total of 12 different ways. (See Figure 1 on page 22.)

Along the matrix's top-left to bottom-right diagonal, where the world is indeed the way it is stipulated to be, there are no penalties and therefore no surprises, but there are in each of the remaining 12 boxes. To deduce what each of these surprises will be, we need to contrast the strategy that is sensible to each firm with the responses the resulting tactics will provoke in each of the actual worlds.

- In the uncertain market there is no discoverable pattern to the responses: the world is an enormous slot machine. This is the world of financial uncertainty, when business activity and markets might turn abruptly. The model of the world has unknown drift and unknown volatility. Maximizers, Conservators and Managers are all surprised by the lack of predictability of the uncertain market. Each had their own different idea of what they were predicting and they are all disappointed.
- In a bust there is a discoverable order: the world is a vast negative-sum game. This is the world of the financial market bust. The world model has negative drift and low volatility. Of course, Maximizers and Managers are surprised. The Maximizers thought that persistent losses would just not happen and Managers are surprised by the magnitude of the losses. The Pragmatists were surprised when "correlations all go to one" and their preferred strategy of diversification fails to protect them.
- In a boom the reverse is the case—the world is a huge positive-sum game. This is the world when the financial bubbles form. The model for this world has high positive drift and low volatility. Managers and Conservators see the large gains of the Maximizers in the boom and are surprised that they can get away with that. Pragmatists see their own larger than expected gains and are surprised.
- In a moderate market there are two games going on—a positive-sum one and a negative-sum one. But, unlike the uncertain market, there is a discoverable order: it is possible to differentiate between those situations in which one game is operating and those in which the other holds sway. This is the "normal" world of the risk management models, with moderate drift and moderate volatility, perhaps at the levels of long-term averages. The Maximizers will be surprised that they underperform their outsized expectations, while Conservators see the Managers' careful taking of risks, which they had shunned, succeeding. Pragmatists are puzzled and surprised by the success of the orderly Managers as well.

SOME MANAGERS WILL NOTICE IMMEDIATELY AND ADAPT QUICKLY; OTHERS WILL KEEP EXPECTING THAT THEY WILL WAKE UP TOMORROW AND THE WORLD WILL AGAIN WORK THE WAY THEY EXPECT IT TO. …

The process of changing risk attitudes for business takes two routes. First, individual managers will be surprised just as is described earlier. The process of noticing again and again that their expectations are not being met by the world will wear away at their convictions about how the world works. Some managers will notice immediately and adapt quickly; others will keep expecting that they will wake up tomorrow and the world will again work the way they expect it to work, persisting in their unrequited beliefs even with repeated evidence to the contrary. As these individuals shift their risk attitudes, they will shift their approach to their business and especially to the risks of their business. If they are very perceptive and highly adaptable, they will change to a belief that aligns with the current environment and the process will begin again. They will help to lead their firms to the best result

Figure 1

ACTUAL WORLD (columns) / EXPECTED WORLD (rows)

	UNCERTAIN	BUST	BOOM	MODERATE
UNCERTAIN (Pragmatist)	NO SURPRISES	Expected windfalls don't happen—only losses	Unexpected runs of good luck	Unexpected runs of good and bad luck
BUST (Conservator)	Caution does not work	NO SURPRISES	Others prosper (especially Maximizers)	Others prosper (especially Managers)
BOOM (Maximizer)	Skill is not rewarded	Total collapse	NO SURPRISES	Partial collapse
MODERATE (Manager)	Unpredictability	Total collapse (when only partial was expected)	Competition	NO SURPRISES

Changing Seasons OF RISK ATTITUDES

Risk—The Concept of Dr. Michael Thompson's "Di-vidual"

BY ROBERT WOLF

ULTIMATELY, ONE CAN ARGUE that many of the risks that we face in society today manifest themselves through the decisions, behaviors and biases of people, and not necessarily through any exogenous and uncontrollable event. The collaboration of an actuary, Dave Ingram, FSA, CERA, MAAA, and anthropologist, Dr. Michael Thompson, continues to strengthen this notion and is prompting some tremendously interesting, evolutionary and thought-provoking articles (such as the one in this issue of *The Actuary*) around the cultural view of risk and how it relates to risk management and decision making.

I personally had the pleasure of meeting Dr. Thompson for the first time at the 2010 ERM Symposium in Chicago last April where I had recruited both he and Dave Ingram to speak on the human element of risk management. I learned that he not only is an eloquent speaker, and a tremendous individual, but he also is an avid mountain climber as 35 years ago he successfully climbed Mount Everest in the Himalayas. One would think this would give a great perspective of risk and reward—definitely a human element perspective.

As humans, we tend to not search for disconfirming evidence to our own beliefs. As decision makers, we all deviate from rationality based on our own biases, and we are clearly influenced by the format of how we receive information. Dr. Thompson goes further, saying, "At the heart of what I have to say is a very bold assertion. The world of human activity can be divided into four divergent views of risk, four resulting [types] of risk taking strategists, and four different environments that impact the views of risk and are themselves impacted by the [types]of srisk taking strategists. These four divergent views came from the eminent British anthropologist Mary Douglas in her work on plural rationalities."

Dr. Thompson is one of Mary Douglas' students. The main premise of plural rationalities concerns how we, as individuals, behave in groups. We as humans do not follow alone the risk-averse individual in classical economics, nor the emotional human via behavioral finance. Dr. Thompson states, "Groups form because people share the same concept of risk. In anthropology, the key term is 'social solidarity,' defined by the great French Sociologist Emiel Durkheim as, 'The different ways we bind ourselves to one another as a way of organizing and in so doing determine our relationship with nature.'" Dr. Thompson further states, "Cultural theory, in essence, maps all that in a four-fold typology of forms of social solidarity. These four specific models of nature, per se, are intended to sustain and justify the four fundamental arrangements for the promotion of social transactions."

When asked how he differs from the points of view of behavioral economists, Dr. Thompson says, "Behavioral economists assume that we individuals get it wrong in a systematic way. I argue that these forms of social solidarities should be the true units of analysis, and not that of the individual. Indeed, if you take this approach, it makes more sense to speak not of the individual, but of the 'di-vidual.' If you think about it, we all move in and out of those different solidarities in different parts of our daily lives. These views contrast the more familiar theories that take the 'individual' as the unit of analysis, such as the case in classical economics, and behavioral finance. "

From these views one can truly substantiate why we as individuals sometimes say one thing, and do the other. Dr. Thompson and Dave Ingram's work continues to evolve in integrating the anthropological viewpoints and the financial problems that actuaries and risk managers face with the four seasons of risk, the types of risk management tools, and the ultimate solution of rational adaptability and what Dr. Thompson calls clumsy solutions. Their contribution via the voice and the pen, I envision will continue to evolve how we will think in risk management terms. I thank Mike and Dave for being our catalysts in bringing about, perhaps, a new way of thinking. I'm looking forward to their next chapter. A

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they can achieve in that environment. If they are less adaptable and less perceptive, they might well shift to a different risk attitude that does not align with the environment. Their firms might then lurch along from one type of suboptimal performance to another.

The second way that firms adapt is by changing leaders. This happens when the firm has been spectacularly surprised. Firms that were led by Maximizers like Mr. Prince at Citigroup are more likely to create large crashes for their firms when the environment shifts and the firm persists with its "all ahead full" approach to business. Firms led by leaders with a Manager strategy are also subject to potential collapses. We saw that in the past two years when the firms who used their excellent risk models to help them to take the maximum amount of risk that was tolerable as shown by those models and subsequently choked on the outsized losses. Conservators and Pragmatists are much less likely to suffer collapse because their strategies tend to be much less aggressive. Their surprises are more often disappointments because their firms miss the opportunities that the Maximizers are jumping on and the Managers are taking up in moderation.

In the firms where the board reacts to a collapse or even to a disappointment by changing leaders, then the new leader faces the problem of shifting the prevailing risk attitude of the firm. The new leader will be looking around for managers within the firm who share his or her attitude. Through a series of persuasions, orders, reorganizations, promotions, retirements and layoffs, the new leader will eventually get the firm's risk attitude to be what he or she and the board want.

Meanwhile, the success of the firms with an approach that aligns with the environment will cause them to grow and the firms with a misaligned approach will shrink relative to each other. That process will additionally create a shift of the emphasis of the market to different risk attitudes. The risk attitude that aligns well will eventually control more of the market's resources.

Back in the risk department, there is a model, and a group of modelers. They will be seeing and experiencing the changing environment. Emerging experience will fit one and only one of these four situations. (See fig. 2 below)

Figure 2

	Drift	Volatility
Moderate	Moderate	Moderate
Boom	High	Low
Bust	Negative	Low
Uncertain	Unknown/ Unpredictable	Unknown/ Unpredictable

The modelers will also experience the changing winds of corporate risk attitude described above. Most often the risk models will fit into the moderate mold. These modelers will find that their work will be seen to have high value by management sometimes and completely ignored in other times. However, there may be folks within the modeling group who think that the model is too conservative and see that it will keep the firm from growing at the time when business is very advantageous. There may be others who think that the moderate assumptions understate the risks and lead the firm to excessive risk taking at just the wrong time. And when the discussion in the modeling group turns to correlation calculations, the fourth group will identify themselves by their skepticism about the reliability of any tail diversification effects.

The same surprise process that causes changes in firm risk attitude will have a profound impact on the risk modelers. That impact may mean that management looks at different outputs from the models at different points in time. Or it might mean that the firms ignore the models and the modelers some of the time. And some firms will simply stop funding risk modeling and disband the entire group.

To avoid this cycle of irrelevancy and defunding, risk modelers need to be aware of this process of changing environments and changing risk attitudes, and perhaps to be more adaptable to the different environments and to the different needs for risk information from managers with different risk strategies.

And to expect surprises. A

For more on Surprise see Thompson, M. (2008). Organising and Disorganising, Triarchy Press.

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ENDNOTES:

[1] Frank Knight famously separated the definitions of Risk (as purely statistical variations with known frequency distributions) and Uncertainty (variations with unknown distribution of frequency and severity) in his 1921 book *Risk, Uncertainty, and Profit*.

WHY T
NOT LI

BY DAN IANNICOLA, JR. AND JONAS PARKER

THEY’RE
STENING

SOA research has uncovered some interesting findings about why middle-market consumers don't seek much-needed FINANCIAL ADVICE.

MANY EXPERTS PREDICT that even after America emerges from its present economic problems, a more formidable financial challenge looms just over the horizon as its citizens have fallen behind on saving for retirement. A confluence of factors have contributed to what many term a "retirement savings crisis" including the shift from defined benefit to defined contribution employer retirement plans, the sustained rises in health care costs, increased life expectancy and the possibility of future reductions in government-provided retirement benefits. Compounding this crisis is the average American consumer's inability or unwillingness to address it. Numerous studies reveal that American adults lack the knowledge they need to manage important financial issues. Other studies show that most consumers fail to plan for predictable life events, such as a child's education or their own retirement, with only 42 percent reporting that they have ever tried to figure out how much they need to save for retirement.[1]

The bottom line is that Americans need help with their finances. What's the consequence if they don't get it? Experts contend that millions may enter a future where they outlive their savings, are uninsured for predictable risks, lack financial reserves for health emergencies and are without a plan to financially provide for family members. If ever there was an urgent national problem for which financial professionals are uniquely equipped to solve, it is this.

FINANCIAL ADVISORS TO THE RESCUE … OR NOT

It would seem that in this hour of national need, accountants, financial planners, actuaries, brokers, insurance agents and other financial professionals would be stepping into the breach to fill this gap of financial knowledge and planning. For the affluent this is certainly the case. However the majority of Americans that fall in the middle- and low-net-worth markets are largely underserved when it comes to financial advice. In fact, a 2006 survey by the Financial Planning Association (FPA) found that only 11 percent of its members serve clients with a net worth below $250,000.[2] Additionally, the same study also stated that FPA members are providing financial planning services to only about one- to two-percent of the potential 108 million households in the middle market. However, responsibility for this state of affairs rests not just on the financial services industry, but on middle-market consumers themselves, for in many cases individualized, professional financial advice is neither offered *nor sought*.

Why is it that the same consumers, who visit the doctor when they are sick, call the fire department when their home is ablaze and get a lawyer when they receive a summons, are reluctant to hire a professional to address their money problems? And, likewise, why don't for-profit financial professionals see the profit incentive in developing an untapped market of low- and middle-income consumers in need of financial guidance? Last fall, we probed these questions in a study sponsored by the Society of Actuaries titled "Barriers to Financial Advice for Non-Affluent Consumers." In the study, we reviewed relevant academic research and practitioner literature, and spoke with national experts to explore and understand perceptions and misperceptions that have caused this massive disconnect between the supply side and demand side of the middle market for individualized, professional financial advice. We have summarized our findings below.

DEMAND-SIDE FACTORS

Middle-market consumers often do not seek the help they need from the professionals qualified to give it. Instead they may take no action, follow the unqualified opinion of family and friends or rely on personal finance experts in the media who cannot provide individualized advice. Why then aren't these consumers opting to use financial advisors?

LACK OF BASIC, "ON-RAMP" FINANCIAL KNOWLEDGE

Studies consistently demonstrate that most American consumers lack an understanding of basic financial concepts necessary to manage one's money effectively. While some might believe this reality should drive consumers to seek financial advice, the opposite turns out to be true. For example, recent research shows that the less financially knowledgeable someone is the less likely he or she will obtain financial advice or participate in the stock market.[3] Perhaps this reluctance is fueled by intimidation or fear of the unknown. One television investment expert sees it as a matter of basic confidence. As she put it, "People feel ashamed of what they don't know. First they need to know [the] jargon, like what is an annuity, and then they can go talk to someone who is going to advise them on annuities."[4] These findings are all consistent with the behavioral economics principle of ambiguity aversion: people avoid what they do not understand.

The implication of this is that consumers need a prerequisite understanding of financial matters—what might be called "on-ramp knowledge"—before they feel they can avail themselves of financial advice. Moreover, this suggests a new way to look at financial education: not as replacement for professional financial advice, but as gateway to greater engagement on financial matters which may include the use of a financial advisor.

LACK OF TRUST IN THE ADVICE DELIVERY SYSTEM

As one article puts it, "Personal finance is, after all, personal."[5] Before consumers can permit financial advisors to discuss and handle their money, they must first trust those advisors. Unfortunately several features of the advice delivery system undercut that trust and keep middle-market consumers and their money away from financial advisors.

First, consumers have serious concerns about advisors' objectivity and are justifiably suspicious that advisors are putting their own interests before those of their clients. This suspicion derives from advisors' compensation structure which, in many cases, is based on product sales. This sales incentive can undermine the advisor's purported role of giving unbiased guidance. As one author put it, "You're looking for sage advice. Chances are your advisor is looking to hit sales targets. However much your advisor's office strives to impress clients as a place of refinement and learning, behind the wood paneling it's a sales culture."[6] In the view of many a leery consumer, an advisor can either sell products or give unbiased advice, not both. Even an unsophisticated consumer is sophisticated enough to spot a potential conflict of interest and avoid falling prey to it.

Second, neither the pricing of the advice nor its value is clear to many middle-market consumers, which also leads to distrust of financial advisors. In most cases, pricing of financial advice is not listed on the Internet or in company materials and is frequently embedded in the price of the product. A senior marketing executive at a major insurer observed that this lack of transparency across the industry deprives a potential middle-market client of the chance to comparison shop or to ever really know if he or she got a good deal or even a fair one.[7] Not listing a price reduces consumers trust in the advisor and also leaves the consumer to conclude that the services must be expensive.

CONSUMERS HAVE SERIOUS CONCERNS ABOUT ADVISERS' OBJECTIVITY ...

Moreover, the value of the services provided by an advisor is difficult to demonstrate. Frequently, sound advice will result in a sacrifice today for a return in the future. Indeed, in many cases it will be difficult to determine if advice actually is sound without the passage of time. This reality may make financial advice difficult to take because it runs counter to the behavioral economics principle of hyperbolic discounting, in which consumers have the psychological tendency to overweight present costs and devalue (discount) future benefits.

Third, consumers cannot trust that their advisor has the right certification. Financial advisors bear a number of different certifications meant to clarify their particular area of expertise. Many consumers do not understand the meaning of each of these designations, leading them to doubt if they are speaking to the right professional. Making this more confusing for consumers is the fact that many of these different professionals openly compete with each other in the provision of advice and will discuss with clients the shortcomings of others' credentials while praising their own.

Finally, the recent turmoil in the financial markets has significantly lowered consumers' confidence in the financial services profession. In fact, a 2009 survey put consumer trust at an all-time low.[8] The revelations of negligence, greed and graft of some on Wall Street has tarnished the entire industry and fueled consumer skepticism about the advice, skills and integrity of financial professionals.

SUPPLY-SIDE FACTORS

While many middle-market consumers do not seek financial advice, there is widespread agreement that the industry has traditionally disregarded such potential clients. Instead, most financial advisors build their practices around affluent clients. Consequently, they have difficulty attracting middle-market clients. Specifically, what factors are holding most financial advisors back from tapping the middle market?

ADVISORS' BUSINESS MODEL FAILS TO ACCOMMODATE NEEDS OF MIDDLE MARKET

Financial advice firms have structural factors that keep them from bringing in middle-market clients. For instance, many firms require clients to have a minimum account balance that is too high for middle-market clients. Other firms may have product offerings of the wrong type or at the wrong price for the middle market. Still other firms might be physically located in affluent areas, making access less convenient for middle-market consumers.

In addition to these structural issues, many financial advice firms do not have a core business strategy that allows them to successfully court middle-market consumers. For those firms focused on the affluent, a middle-market client won't conform with their standard product offerings and approach and will be too much work for too little money. Unlike attorneys and accountants, most financial advisors have not been aggressive in developing ways to serve middle-market clients.

Some firms, however, have discovered successful ways to serve the middle market. Initially middle-market clients bring in less money for the same amount of work. Firms can develop efficiencies over time that will permit them to make a profit on leaner margins. One advisor emphasized that firms must make a long-term commitment to make this kind of middle-market strategy pay off. "Building it and hoping they come won't work. One reason planners who try to serve the underserved fail is that if the volume doesn't come in a relatively short period (a year, for example) the model doesn't work well." [9]

Additional advice on serving the middle market comes from a senior executive with a national discount brokerage firm. He said that his firm successfully adopted a marketing and service-driven business model in lieu of the more common sales or business-development model. Because of the firm's size, resources and brand awareness, its advisors can take the time to give good service to middle-market clients. Since the advisor's compensation structure puts less emphasis on commissions, he or she can counsel clients without being primarily concerned with the aggressive selling of products. This in turn generates customer loyalty and referrals. The company views its smaller clients as its "nursery" for the firm, as these clients will grow their nest eggs in the next 10–15 years and become more profitable.[10] Since few firms have the will, resources or patience to adopt either of these approaches, much of the middle market remains underserved.

ADVISORS LACK STRONG CONNECTIONS TO MIDDLE-MARKET CONSUMERS

Financial advisors understand the importance of developing and maintaining close relationships with their clients. This is why most financial advisors spend their time attempting to build connections in affluent communities. Financial advisors also hope that good service to an affluent client will result in referrals to other affluent clients. In fact, in a 2010 survey of financial planners, referrals were the most popular marketing method, used by 77 percent of planners.[11] By contrast, most financial planners neither make connections in middle-market communities nor do they get referrals to middle-market clients. The result is that financial advisors lose their ability to understand issues unique to middle-market consumers or to connect with them. One researcher summarized what her non-affluent subjects said of some financial advisors this way, "They don't want to understand my situation and tailor their advice to my situation." [12]

This disconnect is typically even stronger among recent immigrants to this country. Many such immigrants bring with them their cultural beliefs about money. They also bring along their understanding of the financial system in their home country, which may be nothing like what they find in the United States. These characteristics often create a "cultural disconnect" in which many advisors perceive such consumers as too high-maintenance, and might prefer working with someone from a more homogenous, affluent client pool.

CONCLUSION

Financial advisors and middle-market consumers have been eyeing each other from a distance for years with a mix of curiosity and fear. Each side knows it has something to gain. For advisors it is a large, nearly untapped market. For consumers it is the calm and confidence that comes with steady, well-planned advancement toward one's financial goals. Yet each side is held back by what it might lose. Advisors fear losing money by working with an unfamiliar partner. Interestingly enough, middle-market consumers fear the exact same thing.

If middle-market consumers can become more financially literate they can gain the confidence necessary to get the help they need to better prepare for the future. For their part, financial advisors can address the blind spots in their business model and the flaws in their compensation system. If they do, financial advisors will build the relationships and trust with the middle market they now lack. When the supply of middle-market financial advice meets demand, Americans will be a step closer to averting the retirement savings crisis. A

To read the full report from which this article is drawn, please visit *www.soa.org/researchbarriers*.

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Strategic Organization

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ERM fit

BY TIM CARDINAL AND JIN LI

The authors of this article contend that **THE RIGHT ERM FIT** for a company can be found by involving the company's employees.

IN THE INSURANCE INDUSTRY, enterprise risk management (ERM) has been in the spotlight and hot seat. The National Association of Insurance Commissioners' (NAIC) Solvency Modernization Initiative (SMI) and the European Union's (EU) Solvency II have extensive requirements including embedding ERM into culture, decision making and business activities. The ERM literature is often focused on the acquisition and delivery of information (from models and dashboards). Another essential dimension of ERM, however, is how that information is interpreted to create intelligence or used by decision makers and the role culture plays.

BACK TO BASICS

Over the past decade ERM has gone from a novelty to a cornerstone of management practices. Thousands of pages have been written by consultants, academics, practitioners and rating agencies on ERM topics ranging from definitions, frameworks, risk models and measures. The financial crisis reminded us that designing ERM on paper is not the same as effectively implementing and executing ERM in reality. Post-crisis activities have focused on better economic capital models and risk measures, stronger corporate governance, compensation structures and more disclosures. While these are well-intentioned actions, we believe effectiveness ultimately resides with people and their culture.

First we go back to the basics. We ask, "Why ERM?" If you peruse Annual Reports, a ubiquitous component of Company Missions/Visions is long-term top-line and bottom-line growth. Long-term implies being able to balance and manage risks, revenue and earnings; aligning risk preferences, appetite and tolerances with strategy; and linking core risks and collateral risks with core competencies. But why?—to attain a sustainable competitive advantage.

Next we ask, "What is ERM?" Common words to nearly every ERM definition are: it is a *process* and it is about *decision making*. ERM seeks to gain a holistic view of risks by breaking down silos and inconsistencies to make better informed decisions. Decisions are made by people, not by models, policies, frameworks or even companies. Basic rules of thumb for decision making say the process should be simple, understandable, useable, relevant, timely, tangible and actionable. What is the best ERM? The best ERM is the best *fit*—the fit that is aligned with vision, strategy and strengths. ERM enables the speed to act, to respond and to exploit opportunities. But what?—to attain a sustainable competitive advantage.

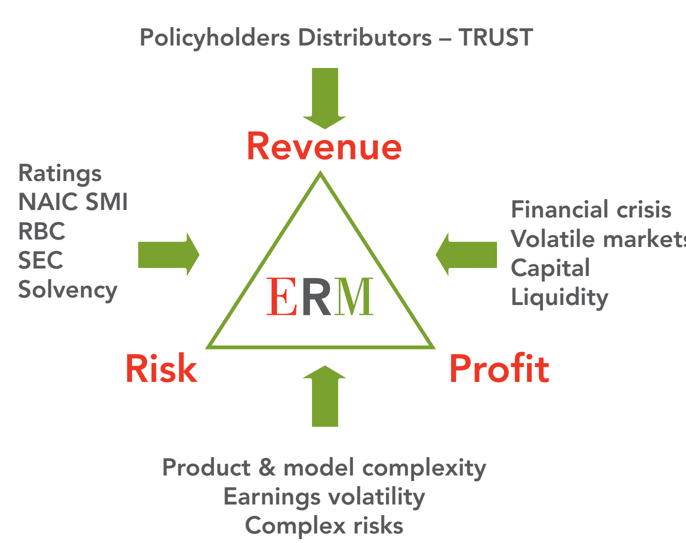
FORCES DRIVING ERM

The fundamental foundation of insurance products is *trust* in management's ability to deliver on long-term promises. Perception is a strong component of strength, trust, and distributor and consumer confidence. Numerous forces have shaped ERM. (See Figure 1.)

ERM EVOLUTION—CONVERGENCE

Convergence is a theme that has been

Figure 1: Forces That Have Shaped ERM



gaining momentum. Supervision, reporting, solvency and capital standards are converging within and across jurisdictions worldwide as well as becoming less rules-based and more principle-based. Convergence is also occurring in models, systems, processes, infrastructure, departments, functions and people. ERM evolution can be described as a convergence of silos and business management. ERM is simply another manifestation of business and performance management.

Convergence has and will unleash a Pandora's box. The *hope* saving us from panic is encapsulated by collaboration, wisdom and judgment. ERM acquires and implements business intelligence in decision making in the face of ambiguity by an organization's decision makers. Thus ERM is inexorably tied to Strategic Organizational Behavior (SOB).[1]

A CRASH COURSE IN SOB

HARD VS. SOFT SCIENCES

We classify the following as hard sciences: governance, frameworks, models, metrics and reports, risk controls and monitoring, and technology. Hard sciences focus on quantitative things, rules or policies. The hard sciences are necessary but not sufficient for successful ERM execution. Much attention is given to the acquisition of (risk) intelligence. We must also consider how intelligence is put into action. There are five stages to formulate and make intelligence useful[2]: 1) acquisition, 2) delivery, 3) acceptance, 4) interpretation and 5) implementation. We explore these five stages from an ERM perspective in ERM & BI—Lessons From WWII Codebreakers.[3]

The soft sciences study culture and decision-making processes and thus consider how ERM intelligence gained from the hard sciences is put into action. SOB is people- and process-centric and studies the actions of individuals and groups in organizations. SOB studies how people, processes, teams, collaboration and decisions result in competitive advantages for organizations resulting in performance. Earlier ERM was defined as a process about making business decisions and the why/what are sustainable competitive advantages. SOB studies how.

What follows is a crash course in SOB covering communication, decision making, teams and groups and conflict from Chapters 1 and 9–12 of *Organizational Behavior: A Strategic Approach*, by Hitt, Miller and Colella. Our short article cannot hope to do this discipline justice. We encourage readers to read these SOB chapters and the entire book as part of their Continuing Education and to implement the theories of SOB to their work culture.

> … to be successful, ERM requires decentralized networks and High Involvement Management throughout the entire process.

MANAGING FOR COMPETITIVE ADVANTAGE

There are three criteria to consider when striving for a competitive advantage. Is the good or service valuable, rare and difficult to imitate (a fourth criteria often included is, is it non-substitutable)? See the chart below.

Criteria For Competitive Advantage

VALUABLE?	RARE?	DIFFICULT TO IMITATE?	COMPETITIVE IMPLICATIONS
NO			Disadvantage
YES	NO		Parity
YES	YES	NO	Temporary Advantage
YES	YES	YES	Sustained Advantage

ERM spin: Hard sciences focus on things. Even the most cutting edge things can only, at best, provide temporary advantages. People and the processes that create the thing lead to a sustainable advantage. Each component of an ERM framework such as risk models, dashboards, policies, governance and compensation structures can be imitated. The process in which all the components interact and how people behave and make decisions within the process are extremely difficult to imitate. ERM satisfies all the criteria for achieving a sustained advantage.

PATTERNS OF WORK

Networks can be used to describe different dimensions of work patterns such as communication, access, information sharing, collaboration, etc. (See Figure 2.) Different networks are better suited for different needs. The traditional command-and-control hierarchal management can be described by a centralized network and is appropriate for simple tasks requiring efficiency, speed and accuracy. High Involvement Management can be described by decentralized networks that integrate within and across organizational units and hierarchies and are appropriate for solving complex problems. High Involvement Management is also better at timely and reliable intelligence and response time.

ERM spin: ERM is certainly complex, crossing many disciplines, functions and hierarchal levels. Thus, to be successful, ERM requires decentralized networks and High Involvement Management throughout the entire process. ERM is not just an end-of-project approval process—transparency and collaboration at the beginning are essential. Early in the process, management should consider what is missing in design or in the implementation plan and how it can be strengthened or broken. Firms that respond quickly to market changes share information widely across the organization. Middle managers are fundamental to ERM execution, working as a bridge between senior management and domain experts and are crucial to sharing, communicating and collaborating upstream, downstream and across the organization.

Post-crisis responses include increased disclosures. Disclosure reveals end information, but is not the same as transparency. Transparency shares what, how and why decisions are made before, during and after the process. Transparency is related to integration and incorporates the process of enlarging internal circles of engagement and information sharing. Transparency goes well beyond disclosure to the board or external audiences and should be construed as a process not a result.

COMMUNICATION BARRIERS

Communication can be described as encoding, sending, receiving, decoding and providing feedback to the sender. Communication barriers are an obstacle to ERM execution. Individual barriers include differing perceptions, semantic differences, status differences, self-interest considerations and poor listening skills. Organizational barriers

Figure 2: Different Dimensions of Work Patterns

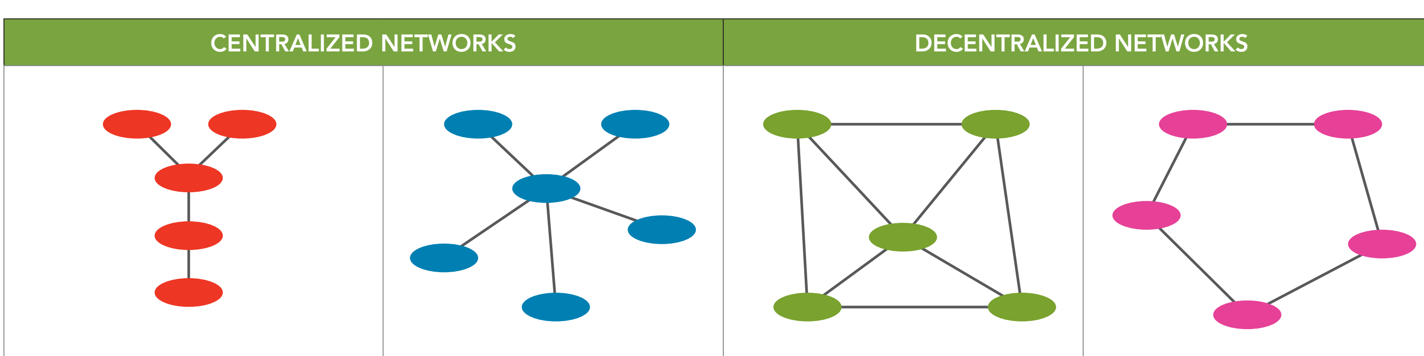
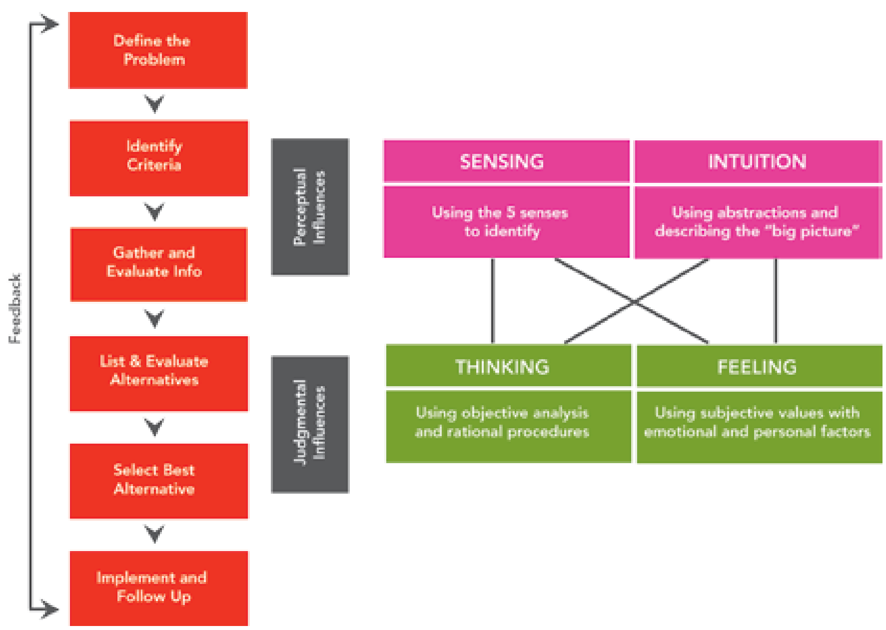


Figure 3: Predisposition and the decision process



include information overload, noise, network breakdowns, time pressure, information distortion and cross-cultural barriers such as time zones, different languages and different regulatory jurisdictions.

ERM spin: Intelligence distortion such as withholding or filtering intelligence vertically and horizontally severely limits ERM performance. Single node network connections between silos, hierarchies and stages of intelligence exacerbate distortion. Later we look at several recent headline failures. A ubiquitous characteristic is that those cultures suppressed meaningful communication and requisite dialogue.

DECISION-MAKING STYLES AND PITFALLS

Decisions can be highly complex and situational. According to Carl Jung's theory, an individual's predispositions can affect the decision process at two critical stages: 1) the perceiving of information, and 2) the judging of alternatives. (See Figure 3 above.) There is a wide spectrum of objective and subjective factors. Additional considerations include: intelligence vs. speculation, certainty vs. ambiguity, importance vs. urgency, and organizational vs. personal dimensions and degree of acceptable risk.

There are numerous pitfalls that even seasoned veterans may fail to successfully navigate. Individual decision making is fraught with challenges and biases such as cognitive, confirmation, anchoring, ease of recall and sunk-costs. Group decisions must overcome challenges such as groupthink, common information-bias, diversity-based infighting and risky shifts (in the risk management arena, groups tend to make riskier decisions than individuals).

ERM spin: Considering all the factors in decision making it is not surprising that very different decisions can be reached by different people, or even by the same person in seemingly similar contexts. ERM incorporates an overwhelming amount of intelligence involving a plethora of perspectives, decision criteria and people who will likely disagree over the relative importance of various factors. We return to our "back to basics" holy grail of being able to balance and manage risks, revenue and earnings. Is there a right answer? Is there a right problem? There are many decision makers. How do they collaborate? The answers to these questions are manifested within the ERM process.

CONFLICT AND RESPONSES—POWER

Conflict can be dysfunctional or functional. Three types of workplace conflicts are relationship, process and task. The first two tend to be dysfunctional; the third can prove constructive. Causes of conflict include: a) structural factors—increased specialization, interdependence, centralization vs. decentralization, and poor communication factors such as talking but not listening and too little or too much communication; b) cognitive factors—differing expectations and perceptions; and c) individual characteristics—personality, value differences, goals, past performance and previous interactions.

There are five potential responses to conflict: competing, accommodating, avoiding, compromising and collaborating. Responses can

be described in terms of assertiveness and cooperativeness. The appropriate response is situational. Thus rules or policies are limited. Effectiveness relies on people, judgment, collaboration and processes. Ability to manage conflict effectively is better captured by Emotional IQ than by Cognitive IQ.

Power can come from many sources. French and Raven developed one of the most commonly used typologies: legitimate (formal authority), reward, coercive, expert and referent power. Individuals and organizational units can also obtain power by being able to address the major problems and issues faced by the organization (strategic contingencies model of power).

ERM spin: Appropriate escalation and resolution are essential to the ERM process. Taking ERM beyond a set of policies on paper and functional or dysfunctional conflict reflects how ERM is truly embedded into culture and decision making.

Whether through one's ability to sell ideas, influence, negotiate, incentivize, command or execute plans, power makes things happen. Internally this is how intelligence is allied with force. It is how observed risk data on a report or the need to perform extensive sensitivity and what-if analysis can result in nothing or it can result in quickly bringing the right people together at the right time to share the right intelligence, to ask the right questions, to have the right dialogue, and ultimately to make the right decision by applying the right resources and taking the right actions. That is, ERM.

WHAT DOES IT MEAN?

SOB AND ERM PERFORMANCE

Now let's apply that crash course in SOB to recent ERM failures. Toyota's 2010 brake recall public relations fiasco was only rescued by BP's even bigger disaster. Evidence suggests BP ignored basic SOB and ERM principles. Communication barriers, information distortion, faulty decisions, conflict and lack of transparency were all contributing factors. When Katrina struck in 2005 these same factors highlighted that New Orleans, La. and federal disaster emergency plans were nice in appearance but ugly in substance.

In testimony pertaining to the U.K. government bailout of HBOS, Paul Moore said,[4] "no-one wanted or felt able to speak up for fear of stepping out of line … I am quite sure that many, many more people in internal control functions, non-executive positions, auditors, regulators who did realise that the Emperor was naked, but knew if they spoke up they would be labelled 'trouble makers' and 'spoil sports' would put themselves at personal risk." In the aftermath of AIG's $85 billion bailout, it was revealed that, "debate and discussion that was common under the previous CEO ceased. The way you dealt with Joe was to start everything by saying, 'You're right, Joe'."[5] Although in 2005 Merrill Lynch's CEO stated, "We've got the right people in place as well as good risk management and controls," the culture was seemingly much different as it was remarked, "There was no dissent, so information never really traveled."[6]

The above quotes aptly capture these institutions' SOB and ERM shortcomings. The shortcomings were not in the hard sciences but rather many of the SOB soft science topics we briefly covered—centralized networks, communication barriers, decision making pitfalls, and conflict, responses and power. A common element is the risks were known, to some degree, and often understood but ignored or not explored.

These failures highlight three common cultural diseases we call the "Yes, Afraid and Safe" symptoms which suppress warning signs and stunt creativity, innovation and solutions. To illustrate a point, let us consider these symptoms in the extreme. Escalation procedures exist in policy but not in practice possibly due to organizational rewards or punishments or individual self-interest behaviors. Meaningful risk discussions and warning signs are filtered up in the best possible light by sugar coating, misinforming, suppressing or covering up. ERM reports are filtered, sanitized and contain the sanctioned or politically correct view. It is easier to agree and say yes. Subordinates are afraid to disagree, dissent or debate. They know bottom-up ideas and alternatives will be poorly received and result in reprimands. By not providing candid alternatives to superiors they are de facto making decisions on behalf of the decision makers. But making safe choices often results in defeat similar to prevent-defense in sports. In business, playing it safe may lead to risky behavior, but not bold behavior. Bad ideas get through since they are not challenged, but bold innovation does not get considered. Subordinates know what management wants to hear. Employees know what the "correct" answers to a question are and even what questions should or should not be asked. Career mobility is rewarded to the "yes" man. These might be the symptoms in the extreme, but in truth, they exist to some degree in reality. Our critique reminds us of Steven Kerr's classic management article, "The Folly of Rewarding A While Hoping for B."[7]

An unmentioned risk in the literature is "career risk." Business intelligence is suppressed when subordinates do not trust superiors or fear reprisals. Warnings, deficiencies and caveats are not encouraged or well received from superiors who do not want to hear negative feedback. In the Tom Cruise movie *Minority Report*, the existence and cover-up of a report that disagrees with the majority places lives at risk and results in a thrilling pursuit of truth. What ERM culture would accept minority reports? In a control culture that is likely political suicide. What drives ERM at a company? Is it based on appearances or substance? Do risk reports look nice or do they stimulate heated dialogue? In the end what counts is, "does it work?"

> Business intelligence is suppressed when subordinates do not trust superiors or fear reprisals.

IN CONTRAST

It is usually easier to find faults in hindsight. There were success stories during the crisis. The news has a tendency to report negative events not positive ones. For the most part, insurance companies were not newsworthy. Companies were able to respond and take appropriate actions by increasing liquidity and raising capital. For example, as the crisis emerged, investment policies changed. The new minimum percentage to be invested in cash was likely to be greater than the pre-crisis maximum percent allowed to be invested in cash. Such a policy change indicates ERM worked since it requires asking new questions, finding new answers, having heated dialogue and making decisions.

A success story was featured in the *Wall Street Journal*.[8] Goldman Sachs had the same risk intelligence during the crisis in 2008 as their competitors, namely, actual value at risk (VaR) trading position results differed from their models. At Goldman Sachs it might not have been a covered-up *Minority Report* but the pursuit of truth was just as thrilling—a rapid escalation of events to decipher, distill and debate new intelligence, problems and questions. They exhibited decentralized networks and high involvement management, shattered communication barriers, harnessed conflict and allied resolution with power. The result was intense dialogue amongst experts, managers and management for a week. Their competitors rationalized away the intelligence to fit the existing paradigm. Goldman Sachs did not know what the new paradigm was, but felt they did not understand the old one. They took action to reduce exposures before the brunt of the financial crisis. They later stated, "The firm's risk management processes did not, and could not, provide absolute clarity; they underscored deep uncertainty about evolving conditions in the U.S. residential housing market. That uncertainty dictated our decision to attempt to reduce the firm's overall risk."[9] They performed and soon afterwards had record earnings in Q2 2009.

CULTURE

An ERM mantra is, "Set the tone at the top" and is a message that employees should change their actions and be held accountable. Perhaps it should be "lead by example."

Where does your company as a whole fit?

CONTROL ERM	HIGH INVOLVEMENT ERM
Silos	Enterprise/global/functional/cultural integration
Centralized work networks	Decentralized work networks
Single points of connectivity	Multiple connectivity points
Power resides in positions	Power resides in interactions
Need to know; secretive	Transparent
Club member only	Wide circles of engagement/delegation
Separation/Partition	Collaboration
Exclusive	Inclusive
Withhold business intelligence downstream	Take in confidence/information sharing
Filter/censor up	Inform, Alert
Top dictates solutions; bottom carries out orders	All levels engaged; top receptive to bottom up ideas
Reports far-removed from source	Reports from/close to the source
Non- and Miscommunication	Dialogue
Single perspective/measures	Multiple perspectives/measures
Delays	Speed
Fixated beliefs	Receives and explores alternatives
Limits sharing	Promotes sharing best practices
Cost minimization	Investment maximization

If management changes its behaviors and actions towards an SOB high involvement culture, it will cascade down, through and back up the organization. We summarize our personal observations in the above table. Where does your department's culture fit in the spectrum between these two polarized cultures? Where does your company as a whole fit?

CONCLUSION

We restate our assertion that ERM effectiveness ultimately resides with people—people through collaboration, wisdom and judgment—in a culture that unleashes and harnesses unimaginative capabilities. All the components of the hard and soft sciences in tandem are essential to ERM efficacy. ERM relies on people and processes. People and processes are valuable, rare and very difficult to imitate resulting in sustained competitive advantages. However, SOB, ERM and advantages are a means, but not the end. The end is performance. A

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Education

CONTINUING PROFESSIONAL DEVELOPMENT

BY JENNIE MCGINNIS

THE TIME IS UPON US—for the first time ever, SOA members are attesting to their adherence with the Continuing Professional Development (CPD) requirement (see Sidebar 1, pg. 43). It's a logical time to think about not only how you've fulfilled the requirement for the current cycle, but also how you might fulfill it in the future.

While CPD may not be at the forefront of your mind throughout the year, it has been for those who serve on the Professional Development Committee (PDC). This relatively new committee is focused on ensuring that members have diverse, high quality and timely access to opportunities that assist in developing the competencies required to succeed in the actuarial profession.

The PDC was formed in 2009 and includes representation of the Board of Directors, Sections, the Education Executive Group (Ed Exec) and SOA staff. Its purpose mirrors the high level oversight and commitment that the Ed Exec provides for pre-qualification education. Also within the past year, the SOA staff was reorganized to place both pre- and post-qualification education in the same department, highlighting the importance of continuity of material and continuous learning.

Formally, the PDC's responsibilities include:

- meeting the diverse development needs of the profession,
- providing the highest quality learning experiences,
- ensuring that the program is focused on both current and forward-looking technical and nontechnical content, and
- making appropriate use of instructional technologies to assure timely access to relevant and engaging programming.

Although this is a broad responsibility, the PDC made progress this past year by focusing on marketing the Competency Framework, piloting a blended learning opportunity and piloting the conversion of an education e-Learning module for PD purposes.

THE COMPETENCY FRAMEWORK

Developed by and for actuaries, the Competency Framework (CF) (see ad on pg. 45) gives focus to the key skills that drive success in the field. Since gathering and consolidating the survey results that serve as the basis for the CF, it has been integrated into PD offerings in a number of ways.

Beginning with the spring 2010 meetings, each session has been mapped to its applicable competencies and marketed as such. With a full cycle now complete, spring 2011 meetings and beyond are being planned specifically with the competencies in mind, with a specific number of sessions being targeted for each of the competencies.

Actuaries should find that the CF aligns well with their day-to-day activities. It shouldn't be surprising, for example, that the majority of sessions are planned to address the Technical Skills & Analytical Problem Solving and External Forces & Industry Knowledge competencies. The CF allows us to recognize the importance of balancing these skills with those that take us beyond what may be considered traditional actuarial strengths. Taking the example further, building strength in the Results-Oriented Solutions competency assists in guiding our thinking when doing technical work to ensure that we're developing useful results, while building the Communication competency can assist in developing skills to best present and share findings.

New in 2011 is a CF self-assessment tool that allows actuaries to identify gaps in their development. Taking into account both the importance of each competency to your work and your ability to perform in these areas of competency, the tool allows for an in-depth comparison of where you are and where you want to be. Individuals can then plan their CPD in advance around the results, which are anonymous.

Future goals revolve around an infrastructure that will better enable members to locate content and PD offerings that will meet their individual professional development needs and interests.

BLENDED LEARNING

There is a continued effort to ensure that maximum learning takes place when one participates in a PD offering. A variety of presentation formats has been used to assist in accomplishing this, such as a panel of speakers, an interactive forum or working groups. Blended learning adds to these familiar formats by integrating them with other teaching and learning techniques to increase the comprehension and retention of material. This is accomplished by tying a traditional meeting session or webcast to a pre-event activity (such as reading supporting material that will ensure attendees have a similar level of familiarity with the topic) and a post-event activity (such as the completion of a technical exercise to get a sense of how the topic can be applied).

Though these techniques have been used at SOA sessions in the past, the 2010 Annual Meeting served as the first time such a session was developed and assessed for its effectiveness as specifically relates to blended learning. In a post-session survey, 70 percent of respondents indicated that they participated in the pre-event activity. Of those, 80 percent agreed that said participation enabled them to better understand the material presented in the session. In a great vote of confidence, 95 percent of all respondents indicated that they would like the SOA to continue delivering such sessions. There were lessons learned about the implementation, too, including the need to provide more lead time to complete the pre-session activity. Given the positive feedback, the PDC will continue to look for opportunities to offer blended learning opportunities.

E-LEARNING

While many are familiar with the PD offerings at meetings and via webcasts, some may not be as aware of other delivery channels offered by the SOA. For example, webcasts are available for purchase after the live presentation for viewing on one's own schedule. Additionally, certain sessions at the 2010 Annual Meeting were broadcast live to those off-site and most sessions from this meeting were recorded and are available for purchase in mp3 format.

But perhaps the most underutilized PD delivery method is e-Learning modules. First introduced with the 2005 education redesign, examples include the Fundamentals of Actual Practice (FAP) and Decision Making and Communication (DMAC) modules (see Sidebar 2, pg. 44). Though designed for pre-qualification education, all are accessible for PD purposes for those interested in learning about material that has been added to the syllabus since being credentialed.

Jennie McGinnis

Though designed with flexibility in mind (to be completed where and when one has availability), a significant downside is that each of these modules requires an estimated 40 hours to complete. Committing that amount of time is often difficult.

With this in mind, the PDC determined that it would be appropriate to break these larger modules down into smaller pieces, not only allowing for a more reasonable time commitment, but also focusing on the material that is more applicable to credentialed actuaries. The first repurposed module, released in 2010, is the six- to eight-hour Modern Corporate Finance, drawn from the Financial and Health Economics FSA module.

Other e-Learning modules that have been developed specifically for PD purposes (that is, not repurposed from the pre-qualification education syllabus) are also available. For

SIDEBAR 1: CPD ATTESTATION

The SOA CPD Requirement can be fulfilled by meeting the requirements of any one of the following standards:

- The SOA CPD Requirement (Basic Requirement)
- The U.S. Qualification Standards (AAA)
- The UKAP CPD Standard (Category 1 or 2)
- The Institute of Actuaries of Australia CPD Standard

Directions on how to attest can be found on the SOA website (Professional Development -> CPD Requirement).

SIDEBAR 2: REVISED DECISION MAKING AND COMMUNICATION (DMAC) MODULE

An extensive revision to the DMAC module has recently been completed. The revision focused on two key aspects: 1) including additional decision-making content while maintaining sufficient emphasis on formal report writing; and 2) providing candidates with the tools to be better prepared for the required final assignment.

More information about the revision of the DMAC module can be found in the Education article from the August/September 2010 issue of *The Actuary*. *http://www.soa.org/actuary-luckner-dmac*

example, a four-part series on professionalism is in the process of being rolled out. Each module is estimated to require three hours to complete, and may be useful as professional development.

The four modules are as follows, with anticipated release dates noted:

- Precept 10, Professionalism in Practice (released October 2010, Structured Credit 3.0 units)
- Precept 2, Qualification Standards (due to be released prior to this issue's publication date, structured credit TBD)
- Precept 3, Standards of Practice (will be released in 2011, date TBD, structured credit TBD)
- Precept 13, Violations of the Code of Professional Conduct (will be released in 2011, date TBD, structured credit TBD)

PODCASTS

Having spent a large portion of 2010 thinking about various delivery methods, the PDC is continuing in this vein this year with the consideration of podcasts as a viable delivery method. Though podcasts are typically thought of as a regular series of recorded lessons or newsfeeds available for download, the PDC is taking the approach that a series is not necessarily required to be considered.

With most meeting sessions already available in mp3 format, a next logical consideration is the reformatting of webcasts to an audio format only—perfect for those with a particularly long commute.

Also under development are a series of smaller "bite-sized" sessions that will provide brief introductions to topics of interest. The Actuary of the Future Section, for example, is developing a content plan that would introduce basic actuarial concepts to students, but could also be used by the experienced actuary to learn more about the breadth of actuarial topics and career paths available.

Another series being evaluated would provide commentary and insight on recent news items as they relate to the actuarial field. In considering the need for such a series, my husband's fondness for *Saturday Night Live*'s "What Up With That?" sketch comes to mind. For those who relate to the panelists in this sketch—with a sense that there is perhaps a little too much song and dance and not enough true information sharing—it's hoped that such a podcast will fill some of that need.

SIDEBAR 3: FINDING PD INFORMATION ON *SOA.ORG*

Though there are some technology, legal and content ownership issues to address, it is hoped that podcasts will soon be a regularly available PD delivery method.

PD COMMUNICATION

It is essential that SOA members are aware of the PD opportunities available to them. To date there are a number of ways that this is accomplished:

- The bi-weekly *Professional Development Opportunities* e-Newsletter
- The PD pages on *SOA.org* (see Sidebar 3, pg. 44)
- *The Actuary* (with items such as this article)
- Section communications with their members (e-mails, newsletters, etc.)

The PDC continues to evaluate the effectiveness of these and the need for additional channels.

It is also imperative that there are strong communication channels in place with volunteers, both current and future. While this is currently largely accomplished through SOA sections, the PDC is considering alternate and improved methods for reaching out to the membership in this regard. With opportunities to plan, recruit and present at sessions, as well as to develop content for e-Learning modules (all of which themselves could qualify for PD credit), it's necessary to get the message out that these opportunities are available and that there is a strong support system in place for those interested in volunteering.

ARE YOU BEING SERVED?

The PDC maintains a close relationship with the SOA sections and the Ed Exec to ensure that there is communication regarding session content and continuity with pre-qualification education. Additionally, meeting and session evaluations are reviewed to consider enhancements to the overall PD offering. SOA members are encouraged to continue making use of these avenues to share their thoughts regarding PD. However, should you have anything else to share you are encouraged to contact any of the PDC members, a list of whom can be found at *http://www.soa.org/pdcmembers*.

Jennie McGinnis, FSA, CERA, MAAA, is vice president at Swiss Re. She is the special interest representative on the PDC and chair of the Actuary of the Future Section. She can be reached at *jennifer_mcginnis@swissre.com.*

The SOA At Work

COMMITTED TO COMMUNICATING

WELCOME TO THE FIRST EDITION of *The Actuary* in 2011. Though there may be some truth to the old adage that it's not productive to live in the past, it is important to take a moment and reflect on past accomplishments. To that end, and because we are committed to communicating with our members and candidates, in this issue you'll find the SOA's 2010 Year in Review. As you turn the pages, you will read about last year's initiatives, activities, successes, and get a glimpse of our plans for the future.

Continuing to provide a full menu of professional development opportunities is part of our plans for the future. The SOA will get the ball rolling with a series of spring meetings. For example, the ReFocus Conference, ERM Symposium, Investment Symposium, Life Insurance Conference and Retirement Industry Conference all take place before the end of April. If you haven't looked into attending these meetings, you should do so now. There are two places you can get more information on these meetings, as well as other events the SOA has on the calendar. One is in the Professional Development section of this column and the other is on the SOA website—the Events Calendar is listed under the Professional Development tab on *www.soa.org*. 2011 will be packed with outstanding professional development opportunities.

We hope you'll use these opportunities to build your skills and networks with your colleagues in the profession. Let's continue doing great things! A

— SOA Executive Director Greg Heidrich

E-COURSES

Professionalism in Practice: Precept 10 E-Course

This e-course is one in a series of four professional development e-courses intended to provide a practical application of the Code of Professional Conduct. The Professionalism in Practice: Precept 10 e-course focuses specifically on the professional obligations to perform actuarial services with courtesy and respect, in cooperation with stakeholders.

Health Foundations

This e-course discusses the health care system at a micro level, beginning with an exploration of health care terminology and coding. The module continues through discussion of medical treatment data sources, claims, administrative data collection systems, and how these combined elements affect actuarial solutions.

Professionalism in Practice: Precept 2 E-Course

This e-course is one in a series of professional development e-courses intended to provide a practical application of the Code of Professional Conduct. This e-course focuses specifically on your obligations to "perform Actuarial Services only when qualified to do so."

For more information, visit *www.soa.org*, Professional Development, E-Learning. A

THE ACTUARIAL PROFESSION IN THE NEWS

The SOA is focused on raising awareness of actuaries in the media. Recent efforts have been successful. Here are just a few examples:

Women Outlive Men, but Don't Plan for It

SOA Past-president Anna Rappaport is quoted in *Reuters* about the impact of retirement on women. Visit *http://blogs.reuters.com/prism-money*. Search term: Society of Actuaries.

Best Careers 2011: Actuary

Actuary listed as best career of 2011; Stuart Klugman quoted in article. Visit *http://money.usnews.com*. Search term: Stuart Klugman.

Retirement Advice for Upper-Middle-Income Preretirees

Upper-middle-income preretirees are well positioned for retirement, notes *U.S. News & World Report*. Visit *http://money.usnews.com/money/blogs*. Search term: Society of Actuaries.

Insurers Test Data Profiles to Identify Risky Clients

SOA Past-president Bob Beuerlein is quoted in The *Wall Street Journal* about tests to identify risky clients. Visit *http://online.wsj.com*. Search term: Bob Beuerlein.

Should You Refinance if You're Over 50?

Read about key findings from the SOA 2009 Retirement Risks report in *SmartMoney*. Visit *http://www.smartmoney.com*. Search term: Society of Actuaries.

Health Care Spending Tab Threatens Retirement

U.S. News & World Report quotes Tonya Manning discussing retirement risks. Visit *http://money.usnews.com/money/blogs*. Search term: Tonya Manning.

View all of these articles by going to *www.soa.org/newsroom* and clicking on the Profession In The News link. A

CALLING ALL CERAs!

What can actuaries do to get a formal seat at the corporate governance table?

Let us hear from you!

Send your ideas to *theactuary@soa.org*. The best responses will appear in the Letter to the Editor section.

ATTENTION READERS!

If you have an idea for an article you think should appear in *The Actuary*, or a response to something you have read in these pages, tell us about it by sending an e-mail to *theactuary@soa.org*.

PROFESSIONAL DEVELOPMENT OPPORTUNITIES

REFOCUS CONFERENCE
Feb. 27–March 2
Four Seasons Hotel
Las Vegas, Nev.

ERM SYMPOSIUM
March 13–16
Swissotel
Chicago, Ill.

INVESTMENT SYMPOSIUM
April 11–12
Millennium Broadway
New York, N.Y.

LIFE INSURANCE CONFERENCE
April 11–13
Caesars Palace
Las Vegas, Nev.

RETIREMENT INDUSTRY CONFERENCE
April 13–15
Caesars Palace
Las Vegas, Nev.

SOA DIALOGUE: INTERACTIVE LEADER SESSION
April 21
Webcast

2011 LIFE AND ANNUITY SYMPOSIUM
May 16–17
Sheraton New Orleans Hotel
New Orleans, La.

HEALTH MEETING
June 13–15
The Westin Copley Place Boston
Boston, Mass.

View all Professional Development opportunities by visiting *www.soa.org* and clicking on Event Calendar.

Recommended Readings

The following is a list of recommended readings from the contributing editors they feel will pique your interest and help keep you informed.

At ***www.ifrs.org*** one can find the **IFRS Exposure Draft on Insurance Contracts** and more than 200 comment letters. The latter are particularly interesting because they show a wide diversity of opinion as well as different logic to reach their conclusions. Because this is primary source material it is not light reading, but it is instructive on the issues. And for anyone who has ever wondered how to tackle a macro-proposal that is open to public comment, this is about as macro as it gets.

The nuts and bolts of credit scores. "Your Credit Score Is A Ranking, Not A Score," by Yuliya Demyanyk. ***www.clevelandfed.org.*** Search term: Yuliya Demyanyk

"Lies, Damned Lies, and Medical Science" from *The Atlantic*, November 2010. This article discusses one researcher who focuses on exposing the flaws that exist in almost all of the medical research that doctors rely on. The article is not directly actuarial, but the thinking applied is a natural extension of our training. This suggests that an actuarial approach could be very valuable to improve research quality and usefulness. ***www.theatlantic.com***. Search term: David H. Freedman

"How American Healthcare Killed My Father" from *The Atlantic*, September 2009. This article is written by someone with no connection to the insurance or health care industry, who began exploring the system after his father picked up an infection during a minor hospital stay and died. ***www.theatlantic.com***. Search term: David Goldhill

New Basel III Rules are Announced

While most of us will not live under banking rules, the regulators are talking across sectors more and more. You can be certain that they will be looking to eliminate any regulatory arbitrage opportunities across sectors in the future, which means that insurance capital standards will be compared very carefully to these bank standards. ***www.bis.org/publ/bcbs189.htm***

Is Law School a Losing Game?

Are there parallels to the actuarial profession?
www.nytimes.com. Search term: Is Law School A Losing Game?

One To Watch

Communication is a hot topic for more than just actuaries. This intriguing video combines typographical design in motion that helps the reader see the poetry by Taylor Mali as he asks what's happened to our ability to, like, communicate and totally speak with conviction, you know? Very funny and on point. ***http://www.taylormali.com/index.cfm?webid=9.***

A follow up to the "Lies, Damned Lies, and Medical Science " article. This is on how effects measured in scientific research tend to wear off over time. While it's still for a lay audience, it gets a little deeper into causes of the phenomenon that actuaries are familiar with—reversion to the mean, biases, etc. ***www.newyorker.com*** Search term: The Truth Wears Off

SOCIETY OF ACTUARIES

2010 Year in Review

This is the story of 2010—the critical initiatives, activities and accomplishments of the SOA. Turn the pages and find how working together, member engagement, commitment to the actuarial profession and confidence in our vision played an integral part in the year's success.

2010 was a year of progress, breaking new ground, and growing in numbers, strength and visibility. The material found throughout these pages reflects the talent, passion and commitment of the many individuals and groups who contributed to that progress and advancement.

2010 Year in Review

Letter from the President

S. Michael McLaughlin, FSA, CERA, FIA, MAAA
President, 2009–2010

Dear Members:

Being an actuary is at the very heart of who I am. Serving as the 2009–2010 Society of Actuaries' president ranks as one of my top career achievements. Clichéd as it may be, as I rang in 2011 with my family, I paused to reflect on what this role has meant to me. No one can argue that the SOA is recognized globally as a leader in the actuarial profession. We are admired for our strong education and examination system, our important research activities, and quite honestly, for the commitment and dedication shown by our members and volunteers—over 22,000 and 3,500 strong, respectively. However, in 2010, we demonstrated, through the work of our volunteers and professional staff, that we are not content to rest on our laurels! 2010 continued to be a year of growth for the SOA—whether we were launching new communication channels to encourage member dialogue, expanding our pre-qualification and continuing education offerings, increasing the profession's media visibility, or expanding our global reach. These are the very reasons the SOA is a leader in the actuarial profession. We have much to be proud of, and you'll read many examples of our leadership in this year in review.

Clear, focused, open communication can be a powerful tool that not only informs but also brings a community together. I am happy to say that we made several advances this past year to both listen to and speak with members. For example, by introducing SOA Dialogue webcasts and our SOA blog,Speaking of Actuaries, we effectively opened up a whole new realm of communication with members regarding issues facing the profession. We have also extended our emphasis on communication to a very important constituency—employers, and the most visible way we do this is through our Employers Council. We meet regularly with the council to get their perspectives on the profession, and we all benefit from those conversations and the resulting ideas that are generated.

Enhancing and improving the quality of actuarial education, for both our candidates and our members, is one of the SOA's top priorities, and we recognize the need to keep our educational process current and cutting edge. As you read through this report, I am sure you will agree that the improvements we have made in the e-Learning modules and the enhanced professional development offerings are important developments that give both aspiring and seasoned actuaries opportunities for professional growth. In addition, I encourage you to learn how volunteerism can help grow your career. You continue to learn new skills as well as build a network of professionals that is of huge value over time.

You have heard me mention numerous times over the past year that I see opportunity for the profession everywhere, and I still stand by that mantra. Almost all areas of actuarial practice are in the public eye, and it is up to us to seize the moment. Whether it is related to public pension issues, health care reform or financial reform, actuaries need to be heard and have our expertise recognized. We were very fortunate this past year to have a number of our research projects earn strong media attention, such as the report on the cost of medical errors and the Risks and Process of Retirement survey. It is through thought-provoking analysis such as this that we are able to provide solutions to important issues and raise our visibility among policymakers, employers and the public.

SOA members span the globe, and the SOA is truly an international organization. SOA members outside of North America face certain challenges and we have been working to better serve all members, especially in the area of professional development. We have created more e-Learning opportunities, webcasts and virtual sessions. For the growing segment of our membership in Asia, we are working to develop e-Learning and webcasts in Mandarin. Of course, I can't talk about our international growth without mentioning the transformation of the CERA into a global credential. On Sept. 1, 2010, the SOA transferred ownership of the CERA to the CERA Global Association, evolving the credential into a truly globally owned one. The global nature of the CERA will increase its prominence within North America as well as around the world and facilitate the free movement of actuaries internationally.

Viewing ourselves as a global profession and a global organization benefits all of us. We have a great deal to contribute and by working together we will ensure that our voices as a profession are heard.

It has been such a pleasure and honor to serve as your president. I look forward to continuing to work with you side by side to ensure the SOA remains a leader in the years to come.

Onward and upward.

Best regards,

S. Michael McLaughlin

Knowledge Matters

Advances in the Society of Actuaries' education system have broadened the scope of development for candidates and members and have strengthened our educational foundation. We now offer fellowship exams twice a year. We have developed new e-Learning tools. And we are fostering the important growth of the academic community.

NOW OFFERING FELLOWSHIP EXAMS TWICE A YEAR

Beginning in the fall of 2011, the Society of Actuaries (SOA) will offer all FSA-level examinations in both the fall and the spring sessions. Candidates will enjoy important new benefits (e.g., increased administrations, scheduling flexibility, and a recommended order for FSA requirements), though the change does not come without its challenges—namely, exam volunteers now have to develop twice as many exams in the same one-year time frame.

There are more than 850 volunteers in the education system; approximately three-fourths of them work on FSA-level exams. Logistically, it would be very difficult to double the number of volunteers working on FSA exams. Instead, the SOA has focused on efficiency.

First, we looked at how others do it. The United Kingdom administers two exams per year and creates both of the exams together in a single process. "While we still need twice as many questions when offering two exams, we felt it would be more efficient to have the Education Committee handle the two of them together," stated Kathleen Wong, FSA, CERA, MAAA, and the current general chairperson of Education.

Second, the SOA created an extensive training program for education volunteers that has been well received and is showing results. The training begins with education theory, covers key goals to be accomplished through the examinations, and culminates in the methodology for writing well-formed questions. Explaining the importance of precise wording in exam questions, Wong added, "As we are trying to test certain cognitive areas, it's very important to be precise on what you mean when you say 'explain' vs. 'evaluate' vs. 'list.' You are looking for a different answer in each of those cases."

Spotlight on e-Learning

The sophistication of e-Learning allows for the introduction of higher cognitive level tasks and more practical and relevant work for candidates. It also provides candidates a broader range of topics tailored to specific career choices.

E-Learning in 2010 saw new modules in Health Foundations and Financial and Health Economics, and the revision of the Decision Making and Communication module. In addition, new requirements for existing modules were put into place. These changes in e-Learning expand the knowledge base and provide a more comprehensive way to obtain practical information in a variety of areas.

NEW THREE-MODULE REQUIREMENT FOR FELLOWSHIP

In July 2010 new e-Learning requirements designed to provide enhanced learning opportunities for FSAs took effect. Candidates pursuing fellowship with the SOA now complete a total of three FSA modules plus the Decision Making and Communication (DMAC) module.

Prior to this change, individuals who had obtained their CERA credential and then decided to pursue fellowship could not count the work they completed on operational risk and had to repeat the entire Financial Reporting and Operational Risk module. The new three-module requirement restores the CERA pathway to once again be a subset of the Finance/ERM track requirements for FSA.

Increasing the number of modules to three per track also allowed room to include a Financial and Health Economics module in all tracks without the need to eliminate topics already included in those tracks. In three of the five tracks, the additional module provides candidates with increased education tailored to their specific career choices.

NEW HEALTH FOUNDATIONS MODULE

When the SOA first began discussing the structure of the health track in the early 2000s, our vision included a module about health care data. Because of the need to condense material, the separate module never materialized—until now. With the recent launch of the new Financial and Health Economics module, the health track underwent a revision resulting in a new Health Foundations module.

The main focus of the Health Foundations module is the importance of a health actuary understanding and interpreting health care data. To do that, actuaries need to understand the language and terminology of health care, and so the first section of the module really focuses on medical terminology and medical coding. The subsequent sections deal with interpreting clinical data, clinical studies and clinical policies.

The module is very practical in nature. For example, it covers how one actually deals with ICD-10, which is something that is going to be a major disruptive change to how data is collected. According to Heather Waldron, FSA, MAAA, and Education volunteer who wrote most of the module, "It is a massive change in coding clinical data that will impact how we gather and use data. We've provided a really good way for people to get up to speed on what data is available in a company and how to interpret and use that data."

The module is an excellent way for an actuary who is beginning to move into the health care arena to obtain

"Knowledge of health economics will enable actuaries to better understand the big picture dynamics of health care and how they affect what we do. In turn, it helps us to make better decisions."

—Dale Yamamoto, FSA, EA, FCA, MAAA

practical information. It provides a good way for people to get started with understanding everyday work.

"We provide a very practical, hands-on approach to get every FSA candidate off to a great start in terms of understanding what's happening ... what they need to do their day-to-day job," said Joan Barrett, FSA, MAAA, and curriculum chair for Health.

NEW FINANCIAL AND HEALTH ECONOMICS MODULE

The new Financial and Health Economics e-Learning module was launched in July 2010 and became a requirement for all FSA candidates on all tracks. In addition, the module is available to members for professional development credit. The coverage was broadened to include applied economics topics and applications that address all areas of practice. Knowledge of applied economics increases an actuary's understanding of key business and financial decisions. The module builds on those areas of microeconomics relevant to financial and health systems management.

"All industries are undergoing significant changes. By increasing exposure to topics such as financial economics, health economics and corporate finance, actuaries will be better prepared to work closely with other business professionals," stated Jeff Allen, FSA, FCA, MAAA.

REVISED DECISION MAKING AND COMMUNICATION MODULE

While employer surveys consistently give actuaries high marks for their quantitative skills, surveys tell us employers believe actuaries need to improve communication and business skills. In response to these findings the SOA developed the Decision Making and Communication module (DMAC) in 2007. An extensive revision to the DMAC module was completed in 2010, with greater emphasis given to the decision-making process and better preparing candidates for the required final assignment, in their path to fellowship.

As Warren Luckner, FSA, MAAA, and curriculum general officer for DMAC stated, "The revisions to the DMAC module enhance learning opportunities for candidates and address employer concerns in the areas of communication and strategic thinking. Candidates are provided with an organized method for making decisions and effective tools for communicating throughout the decision-making process."

"While maintaining examination rigor through formal assessments at critical stages, e-Learning modules take full advantage of the Internet to help us deliver education to actuaries now and, just as importantly, in the future."

—Daniel P. Cassidy, FSA, CERA, EA , FCA, MAAA,
2010 Education Executive Group chair

HONESTY AND INTEGRITY MODULE NOW REQUIRED OF ALL E-LEARNING CANDIDATES

The overwhelming majority of SOA candidates live up to the profession's high standards for professionalism and integrity when taking examinations and assessments. However, the SOA also takes strong action to defend the education and examination system. Sophisticated anti-plagiarism software and administrative reviews are in place to identify cheating. Equally as important, however, is that candidates fully understand the rules. To this end, a new module has been developed.

The Honesty and Integrity module, launched in June 2010, is required for all new registrants and is available to all prior registrants. The module carefully discusses definitions of cheating and plagiarism and provides numerous examples of proper and improper behavior.

Building the Academic Community

It is important that the actuarial profession build and maintain strong relationships with the academic community that supports it. The SOA has launched a number of programs over the last few years designed to recognize universities that exemplify the highest academic standards in actuarial science (Centers of Actuarial Excellence program), encourage the pursuit of an academic career among our brightest minds (SOA James C. Hickman Scholar program), and engage students in a dialogue about what it means to be an actuary (University Outreach).

CENTERS OF ACTUARIAL EXCELLENCE

The Centers of Actuarial Excellence (CAE) program is a key component in the SOA's plan to strengthen the position of the academic branch of the profession. The SOA Board of Directors identified that strengthening the role of academics within the actuarial profession has the potential to enhance research and intellectual capital development. The academic branch helps the profession grow stronger and plays an integral role in advancing actuarial knowledge.

Eight university actuarial science programs in the United States and Canada were named CAEs in 2010.

- University of Illinois at Urbana–Champaign
- University of Michigan–Ann Arbor
- Pennsylvania State University
- Université du Québec à Montréal
- Simon Fraser University
- University of St. Thomas
- University of Toronto
- University of Western Ontario

These schools joined 13 CAE schools that were awarded the designation in the fall of 2009.

The programs at each of the CAE schools met eight rigorous criteria and specific requirements related to degree curriculum, graduate count and quality, faculty composition, appropriate integration, connection to industry and research/scholarship in order to qualify for the CAE designation.

The CAE program not only allows U.S. or Canadian universities and colleges with outstanding actuarial programs the opportunity to be recognized for that achievement, but also to compete for substantial grants for education and research.

The first CAE grants (one Education and one Research) were awarded in 2010. This year's Education grant was awarded to the University of Wisconsin–Madison's Actuarial Science, Risk Management and Insurance Department. The Research grant recipient has been selected, but the name of the school will not be announced until contract negotiations are complete.

The grant given to the University of Wisconsin–Madison will support the department's "Technology-Enhanced Learning in Actuarial Science Classes" project. Through the project, the department is developing Web-based learning modules that students will be using for the basic actuarial curriculum. The new tools will help students learn software, theory, applications, historical vignettes and practice problems. "This is technology-enhanced learning and not distance education," said Edward W. (Jed) Frees, FSA, Assurant Health Professor of Actuarial Science and director of the Technology-Enhanced Learning project. "This initiative is not to replace the current classroom structure but in fact to enhance quality. It allows the next generation of actuaries to access materials on-demand whenever they want to. Students have the ability to repeat modules, as well as make use of interactive features such as online quizzes. They can be more engaged."

SOA JAMES C. HICKMAN SCHOLAR PROGRAM

Recognizing that the academic community produces important new research that often translates into breakthrough practice applications, in 2009 the SOA established a doctoral stipend program to increase the number of academic actuaries who hold a Ph.D. and an actuarial designation, and who intend to pursue academic careers in the United States or Canada. The program is designed to provide stipends to doctoral students who will, through their studies, address research and education needs of the profession, including both the theoretical and practical aspects. The program was renamed the SOA James C. Hickman Scholar Program in 2010 in memory of the late James C. Hickman, FSA, ACAS, MAAA.

In a speech given at the Hickman Scholar reception during the 2010 SOA Annual Meeting, Hickman's widow, Margaret Hickman, said, "There have been a number of wonderful tributes for Jim since his sudden death in September 2006, but I think the James Hickman Scholars Fund would be the one that meant the most to him. This award is not just for him, but for the numbers of bright students who will be helped along their hard journey of earning a fellowship in the SOA and earning a Ph.D. in Actuarial Science."

UNIVERSITY OUTREACH PROGRAM

The SOA's University Outreach program, first launched in 2007, has been helping us engage with students on college campuses across the United States and Canada. SOA education and marketing/communication staff are joined by local actuaries or actuaries who are alumni of that university. The feedback we have received from students has been extremely positive. Students surveyed shared that they are more informed about the profession and the SOA's education system. Faculty and advisors have responded favorably to the visits. As one student advisor noted, "The SOA's visit to our campus helped me become better informed about the exam process and learn about nontraditional career paths."

- In 2011, we will launch a video available for download at *www.riskisopportunity.net*, which mimics a typical on-site visit and highlights information about the education and exam pathways, opportunities for actuaries, and interviews with practicing actuaries.
- In addition, the website will include an exciting new feature titled "Opportunity TV," which brings videos like Actuaries in Action onto the site so that students have an opportunity to hear firsthand about the exam process, internships and the importance of obtaining a designation. These visits offer a great opportunity to create a more personal dialogue with students, faculty and college advisors.

"Our University Outreach program continues to grow and has proven to be a valuable way for us to connect with future members of the profession," said Lisamarie Lukas, director of Communications for the SOA. "Students really appreciate the opportunity to learn about the profession directly from its members."

The Learning Continues with Professional Development

"With all the change going on now, it is important that all actuaries be informed of what they need to know. Information is now king."

—Health Meeting attendee

When it comes to your professional development, you've heard it before—your education does not stop when you receive your credential. Professional development is truly a continuum of education that helps you expand your knowledge and skills in order to meet increasingly complex problems and to enhance the value added by actuarial work. For the first time, SOA members are attesting to their adherence with the Continuing Professional Development (CPD) requirement. And the SOA has been developing many more robust offerings to help you in your quest for additional learning opportunities.

Key Meetings and Events

MEETING	ATTENDEES 2009	ATTENDEES 2010
Life & Annuity Symposium	New in 2010	525
Health Meeting	735	753
Valuation Actuary Symposium	583	807
Annual Meeting	1909	1950

EVENT	TOTAL 2009	TOTAL 2010
In-person meetings (seminars, symposia)	26	32
Webcasts	28	50
Virtual sessions	7	16
E-courses (with two rolling out after the first of the year)	11	6

In response to member feedback, we combined the Life Spring Meeting and the Product Development Symposium into the Life & Annuity Symposium. As a result, attendees found the content and structure of the meeting to be more beneficial and gave the meeting an overall satisfaction rating of 4.0 (up from 3.6 in 2009), on a scale of 1-5. We also delivered 23 seminars and 66 webcasts and virtual sessions, all cost-effective opportunities for members to grow their skill sets as well as respond to emerging issues. For example, the Health Section worked with the Conference of Consulting Actuaries (CCA) and the American Academy of Actuaries (The Academy) to sponsor a series of four webcasts following the passage of health reform regulation. We are also extending our options into e-Learning and podcasts, with two professionalism e-courses launched in 2010 and new offerings coming in 2011.

To help provide more focus to professional development, the Professional Development Committee (PDC) was formed and has been hard at work developing programs that will meet the diverse needs of members as well as establish continuity with the education program. For more detail about the work of the PDC and enhancements to the professional development program, see the article that appears in the February/March 2011 issue of *The Actuary* magazine.

RESEARCH

Focus on Research

Research expands the boundaries of actuarial science and educates our members and the public. Studying such topics as retirement planning and health care issues, and collaborating with other organizations, helps us address current, significant topics. Research provides important information that affects our economy and our financial security, as well as helps shape public policy.

Expanding the Boundaries of Actuarial Science

"Produce and support research that expands the boundaries of actuarial science." These are powerful words that are part of the mission and strategy of the SOA. The SOA lives up to this standard by producing quality research that expands knowledge and provides new information for members, the public and other research stakeholders.

SOA research covers a wide range of topics and industry needs. Over 35 research projects were completed in 2010. In addition, two member oversight groups were created to enhance research processes and quality. A number of our projects earned substantial media visibility, especially those dealing with retirement risks and the cost of medical errors.

RISKS AND PROCESS OF RETIREMENT SURVEY

This fifth biannual report highlights that the level of retirement planning, or lack thereof, has not changed significantly since 2007. Almost one-third of pre-retirees stated that retirement will not apply to them, with 31 percent of that group indicating they will be financially unable to retire. The report notes that the proportion of individuals planning to save money and work as much as possible is statistically unchanged compared to before the economic downturn. "More long-term planning is needed for individuals, and it is imperative that they look beyond five or 10 years, because that is the tip of the iceberg for many individuals nearing retirement or early into their retirement," said Anna Rappaport, FSA, EA, chair of the Committee on Post-Retirement Needs and Risks. Valerie Paganelli, FSA, EA, MAAA, goes on to say, "From an actuarial perspective, we recommend a deeper understanding of the specific long-term retirement risks individuals need to address for their situation, including whether a long-term retirement is still economically and socially feasible."

"More long-term planning is needed for individuals, and it is imperative that they look beyond five or 10 years, because that is the tip of the iceberg for many individuals nearing retirement or early into their retirement."

—Anna Rappaport, chair of the Committee on Post-Retirement Needs and Risks

BARRIERS TO FINANCIAL ADVICE FOR NON-AFFLUENT CONSUMERS

This report addresses the need for improvement in the way Americans are offered and receive professional financial advice. The study reveals that many non-affluent American consumers, those of moderate or low net worth, are neither seeking nor receiving affordable, quality professional financial advice and highlights a number of the barriers they face. "Although Americans' individual responsibilities for their own retirement have increased with the shift from defined benefit to defined contribution plans, their financial knowledge has not kept pace," said Janet Deskins, FSA, MAAA. "The need for professional, customized financial advice is compelling."

THE ECONOMIC MEASUREMENT OF MEDICAL ERRORS

Medical errors are a significant source of unnecessary health care costs every year. This study estimates that measurable medical errors cost the U.S. economy $19.5 billion in 2008. The findings were based upon an analysis of an extensive claims database. The report highlights an opportunity for not only improving the overall quality of care but also reducing health care costs in this country. "In the past the insurance industry had low visibility in its involvement in quality-improving initiatives," said Jim Toole, FSA, CERA, MAAA. "Now is the time for the industry to assume an active role by helping health care systems implement an actuarial approach, which can more systematically identify potential causes of medical errors than alternative approaches."

Working Together

The SOA also collaborates with other actuarial organizations on research projects. For example, the NAAC Collaborative Research Group is comprised of 10 North American actuarial organizations and is working on several projects. In addition, the SOA conducts research in support of the Academy's activities to shape public policy.

THE NORTH AMERICAN ACTUARIAL COUNCIL (NAAC) COLLABORATIVE RESEARCH GROUP

The group was formed in 2009 and grew out of the efforts of the various actuarial organizations in North America to coordinate and partner on research activities. The organizations recognized the need not only to come together to report on their respective research activities, but also to identify areas of potential synergy and to collaborate on significant research opportunities.

With this mission in mind, the group has discussed a wide range of topics related to the organizations' research efforts. As a result, the group initiated a new project that is exploring the risks and impact of severe inflation and deflation on financial security systems and the economy.

As an offshoot of the NAAC Collaborative Research Group, the SOA is partnering with the Canadian Institute of Actuaries (CIA) as well as the Casualty Actuarial Society (CAS) and the Academy on a joint climate change research project. As a result of their research, they hope to raise awareness of the potential risks associated with climate change and the risk management implications within North America and globally. The project results are intended to be used by actuaries and others in predicting losses or opportunities related to climate change and the impact to insurance risk.

COLLABORATION WITH THE CANADIAN INSTITUTE OF ACTUARIES

The SOA's Retirement Risk Survey continues to be one of the pre-eminent industry surveys covering the area of post-retirement needs and risks. In 2010, the CIA launched a survey covering many of the same issues explored in the SOA Retirement Risk Survey. To promote synergy between the two organizations and uncover new insights, an effort was initiated in late 2010 to compare the findings from the most recent SOA and CIA surveys. The results, scheduled to be available in the first quarter of 2011, are expected to reveal insights into how Americans and Canadians approach and understand post-retirement risks. Similarities and differences will be of primary interest. In addition, CIA representatives will join the working group for the upcoming 2011 SOA Retirement Risk Survey to lend their expertise and unique perspective.

Work with the CIA continues. To aid in the estimation of future rates of insured and annuitant mortality improvement, the SOA's Reinsurance Section initiated a study examining historical rates of improvement for both the general population and the insured population from a global perspective. The study will provide insight into how U.S. mortality improvement trends compare to Canada, the United Kingdom and other developed countries. In addition, the study reviews some of the data sources available in each country as well as the current techniques being utilized in projecting future rates of mortality. Results of the study are expected to be available in the first quarter of 2011.

SUPPORT FOR THE AMERICAN ACADEMY OF ACTUARIES

The SOA has initiated and completed several studies in which the results not only extend actuarial knowledge but further the efforts of the American Academy of Actuaries. One such study examines the financial reporting effect on U.S. contracts of the International Accounting Standards Board's (IASB's) proposal to revise the reporting of liabilities for insurance contracts under a future international framework. The results, available on the SOA website, aided the Academy's Risk Management and Financial Reporting Council in preparing a response to the IASB regarding its proposal. In addition, the SOA and the Academy's Modeling Efficiency Work Group are collaborating on research investigating various modeling efficiency methods as they might be applied to the required stochastic modeling under a principle-based approach framework for determining reserves and capital.

Rapid Retirement Research Pilot

"To be able to quickly turn around research that is topical and addresses current issues is the key."

—Tom Terry, FSA, EA, FCA, MAAA

While the SOA produces high quality research, it is typically research that is based on the process of identifying an issue, deciding the best way to address the issue, and determining where to obtain the right information and the best way to analyze that information. This then typically leads to either a Request for Proposal or a call for papers for an outside researcher to complete the work. This all takes time.

By contrast, the Rapid Retirement Research Pilot was approved by the Board of Directors in 2010 to test an assumption that if we have access to existing data that can be used to analyze current issues of concern, if we have models in place that can be used to analyze that data, then we should be able to do a much quicker turnaround on issues that are of key importance today. In particular, a key foundation of the pilot is the addition of an SOA staff actuary to focus 100 percent on conducting the research.

One of the tools we will be using is a pension plan simulation model and database developed by the Pension Benefit Guaranty Corporation. It is unique in its scope as it covers the entire private sector retirement system in the United States. In addition, we will investigate what other models and databases are available for use in the U.S. and Canadian context. We will learn what it is to leverage tools like this as we seek to complete retirement research that is relevant in North America and beyond.

If we can complete research in a matter of months as opposed to the typical one- to two-year time frame for many SOA research projects, we can actually model impact and comment meaningfully in a timely manner, thus bringing our skills to the table and visibly elevating the role that actuaries are playing in informing the public and influencing public policy decisions. "The actuarial profession will have a seat at the table when we're looking to provide commentary and insights into current issues," stated Ian Genno, FSA, CERA, FCIA.

While the initial pilot is focusing on the retirement area, ultimately we can leverage what we learn and apply it to other practice areas, if the SOA Board approves a broader application at the end of the pilot period. It is important to note that this pilot does not replace our current research, but complements it; it is data-driven and model-based, a different approach from our current research. "To be able to quickly turn around research that is topical is the key," said Tom Terry, FSA, EA, FCA, MAAA. "It's a perfect coming together of the needs of policymakers for good, solid analysis and the capabilities of our profession."

Developing Intellectual Capital

For the actuarial profession to be strong, it is imperative that it grow and develop in dynamic ways. A major aspect of this growth is our development of intellectual capital.

In October 2008, the Board of Directors adopted a strategic initiative to consider the role of the SOA in the development of intellectual capital, and the Develop Knowledge Team (DKT) was formed. In 2009 we surveyed over 2,000 actuaries regarding our intellectual capital. Among many recommendations, we learned two very important things:

- The SOA needs to do a better job of creating intellectual capital for the profession, and
- We need to provide better tools for accessing that intellectual capital.

Part of the DKT's work in the past year has been to look at what type of research the SOA produces and how easy it is to find that information on the website. As a benchmarking exercise, the DKT researched other organizations to see how their websites were arranged and the types of search tools utilized. As a result of that exercise, the SOA plans to invest in a content management system (CMS). The goal for 2011 is to identify and implement a CMS as well as develop a taxonomy structure which will eventually help to improve searchability on *Soa.org*. "We expect members to see incremental benefits in fall 2011 with more substantial benefits into late 2011 and beyond. The investment in the content management tool will also provide more website functionality and additional distance learning options for members," said past DKT Chair Anne Button, FSA, EA, MAAA.

We are not only trying to share information with our members, but are also trying to share information with other researchers and with the general public. As a member commented on the intellectual capital survey, "We should have a lot more to say than we do. The SOA can be an organizing force in doing so. Besides targeting members only, we should aim more broadly—our intellectual capital is only as good as the credit and recognition we get from the broad marketplace of users of ideas." However, as Button goes on to say, "If they cannot find what they are searching for on our website, it's almost as if it doesn't matter that we went through all that trouble to produce it. We need to be able to show the world what we create."

"We need to be able to show the world what we create."
—Anne Button, FSA, EA, MAAA

The DKT has made progress in responding to the recommendations made by members, one of those being the targeted selection of practical research projects. Part of the goal is to identify who our audiences are, where we want to focus our attention, what type of themes of research that we might be interested in pursuing, and make sure that they are all connected. While experience studies are considered to be one of the most popular tools that the SOA creates, members also feel that they fall short of meeting individual needs. Therefore, an experience studies oversight working group has been formed, and a staff actuary has been hired to focus on experience studies.

In addition to experience studies, the SOA produces high-profile research such as Living to 100 and Retirement 20/20. However, we recognize that we need to engage in more research studies that expand the actuarial practice, and a number of those projects are under way. Some broader consumer-oriented research could be very useful to the general public. Our challenge is how to effectively disseminate that information.

In addition to the development and dissemination of SOA research, the DKT is focusing on the role of publications within the SOA. Given that a major strategic focus of the SOA in recent years has been to strengthen academia, we recognized how important the *North American Actuarial Journal* (NAAJ) is to our academic community. The publication represents the cutting edge of research in our profession. However, we also recognize that for most actuaries their everyday work is not on the cutting edge and it is often difficult to envision how to apply the concepts presented in the journal. To help with this, the DKT has recommended a bridging document that will identify papers published in the NAAJ that have a real-world focus, as well as identifying those concepts that over time have become mainstream. The exact format of the bridging publication is still to be determined, but will be in the planning stage in 2011. The DKT has also recommended an opt-in option for members to receive the print version of the NAAJ, which is also in the planning stage. A third recommendation of the DKT that has been implemented is the cessation of the *Actuarial Practice Forum* (APF). While the publication was launched in 2006 as a practical papers journal, at its June 2010 meeting the Board of Directors approved the recommendation by the DKT to discontinue publication due to decreasing interest by SOA members. The February 2010 issue served as its final publication.

"We are always looking for ways to improve our content delivery and serve as a resource to our members. This is a long-term project that will help us achieve the goal of strengthening the role of the SOA as a source for intellectual capital for the profession," said Button.

Experience Studies

Experience studies are one of the cornerstones of SOA research, and an army of member volunteers performs experience studies and surveys for the benefit of the actuarial community and the general public. In 2010, three experience studies and three surveys were added to the list of completed projects. These included an individual life mortality study, an individual payout annuity study, a credit life mortality study and an early duration claims survey. Work is currently underway on 22 additional studies and surveys. These studies will provide invaluable data for pricing and developing products. In addition, an Experience Studies Oversight Working Group was formed to provide high-level strategic direction to increase the value of experience studies to actuaries, their employers and the general public.

Opening Doors to Untapped Opportunities

The ever-changing climate of health care brings considerable uncertainty to the future roles of health actuaries, but it also opens doors to new exciting opportunities.

With health reform a reality and sweeping changes to the health care industry on the horizon, this is a perfect time to assess the opportunities for health actuaries and how well our skill sets match those opportunities. As the health care industry changes, actuaries will be needed to analyze more than just financial data. Models will be needed to assess health outcomes, compliance, quality of care, comparative effectiveness research and clinical study design.

We know that health plans value the actuary's skill set, but recent research sponsored by the SOA showed that, with our skills, there are also opportunities at organizations that don't traditionally hire actuaries. Our market research pointed to several areas that have had little or no actuarial representation in the past, but appear to be a good fit for our skill set. These areas include:

- Management consultants who work on large-scale health care projects.
- Wellness and disease management companies.
- Clinical outcomes organizations.
- Comparative effectiveness research firms.
- Providers—particularly large hospital systems.
- Health care analytics groups within health plans.

Health in the United States is a $2.3 trillion industry. There are 3,500 health actuaries. The space we serve is broad, but we have been very limited in serving that space. "My greatest fear is not health reform, it's that we become irrelevant; 3,500 actuaries can become irrelevant overnight," stated Jim Toole, chair of the Untapped Opportunities for Actuaries in Health work group. "Currently we primarily serve the insurance industry, but there are doctors, hospitals, public health, drug manufacturers, device manufacturers—there are all these different parts of the U.S. health care system that we are currently not serving and so to me these are untapped opportunities."

While health insurers are familiar with the work of actuaries, those outside of that space are not. Indeed, there are many who associate actuaries with life insurance and don't even associate them with health insurance. Given this fact, it is important that we begin branding the health care actuary. One place to start is raising the awareness of the health actuary's skill set. However, as Jennifer Gillespie, FSA, MAAA, stated, "I don't think you can just make awareness by telling people; a lot of it is by showing, so that's looking for places where we can do projects together."

> "It's going to be even more important that we get out there and put actuaries in the center of the conversation."
> — Jim Toole, FSA, CERA, MAAA

Research is one possible way to partner with a hospital or a pharmaceutical manufacturer, whereby doing research jointly we can showcase the skills and value that health actuaries can bring to the table. The medical errors report that was published in the summer of 2010 is a perfect example of health actuaries taking a leadership role. The report, which garnered national media coverage, tackled an issue that's of national interest and showed our strengths and quantitative skills.

Actuaries have substantial expertise in the area of health care financial analysis and, in particular, payment systems. Therefore, we are well positioned to respond to the various proposals and pilots being performed across the country in the area of payment reform. These opportunities are magnified by provisions in the Affordable Care Act (ACA).

In response to this potential opportunity, the Payment Reform Work Group was officially formed in the summer of 2010. The work group, chaired by Greger Vigen, FSA, is developing research and education programs as new reform opportunities unfold. The idea is to educate actuaries about what's going on, and to support actuaries who are working in this field. "We are trying to identify and support people who are already working on these projects, as well as educate the broader actuarial community," said Vigen. "We are trying to determine how to have a positive impact given the pace of change that has happened in the industry right now."

Some of the various types of payment reform alternatives being discussed include Accountable Care Organizations, patient-centered medical homes, readmission and complication reduction, primary care payment reform, Global Payments, bundled payments, Pay for Performance and Alternative Networks.

2010 has been the start-up year for the work group. Some of the key accomplishments include:

- Developing a strategic plan on how to get actuaries more involved.
- Conducting a series of seminars at the health and annual meetings on payment reform.
- Developing an ongoing series for the beginning of 2011 to educate actuaries about the various key issues in both payment reform and measurement of health care.

The SOA is also targeting ways it can get involved in helping health actuaries overcome some of the hurdles they may encounter, such as understanding specialized terminology. A first step was the Medical School for Actuaries Boot Camp, which was planned entirely to meet the need for more clinical terminology and knowledge. In addition, we continue to bring in industry speakers for webcasts and seminar sessions who have worked in some of the untapped areas we are targeting and can share projects that actuaries and non-actuaries worked on together in some of those areas. "We're starting to get more focused—building bridges, identifying opportunities, and then trying to help with improving skill sets," stated Gillespie.

The bottom line, though, is that health actuaries need to be willing to step up to the challenge to remain relevant, expand their skill sets and let their voices be heard.

"It's going to be even more important that we get out there and put actuaries in the center of the conversation. This is our opportunity. Where there is change, there is opportunity and it's ours to lose," said Toole.

Seeing a Bigger Picture

Communication is a powerful art. Enhancing member dialogue, focusing on partnerships to achieve strategic goals and promoting member involvement on multiple levels gets people talking and listening. More importantly, it helps showcase our members as leaders in the measurement and management of risk. Strengthening a dialogue with members and increasing visibility of the profession by creating and maximizing opportunities for actuaries are important pieces of our vision for the profession.

"We can't progress if we are not able to discuss challenges, share ideas, even contradictory ideas, and propose solutions."

—S. Michael McLaughlin, FSA, CERA, FIA, MAAA

"Actuaries have skills that can benefit society. We have expertise in social security and health care systems, and I think it is very important that our voice be heard and that our expertise be recognized."

—Alice Rosenblatt, FSA, CERA, MAAA,
SOA Cultivate Opportunities Team chair.

The Marketing & Market Development Plan (MMDP) was originally developed in response to a concern that actuaries' opportunities for leadership roles in risk management were being usurped by other professions. Research found that employers often were not considering actuaries for senior risk management roles because of a misperception about actuaries' skill sets.

To combat that misperception, external communications began focusing on reaching the employer audience. In 2010, the focus of the media relations effort shifted when the Cultivate Opportunities Team (COT) directed the SOA to broaden its outreach to the general public. Media outreach included those areas of actuarial thought leadership that had a consumer bent—such as retirement and areas of health care. Today, media outreach is targeted to both the employer audience and the general public.

The SOA's 2010 MMDP centered around four programs—Raising Visibility, Member Communications, University Outreach, and Employer and Recruiter Relations.

RAISING VISIBILITY

Working closely with the COT, the SOA continued its mission of promoting the actuarial profession's image in the media. To help accomplish this task, we formed Viewpoints & Visibility (V&V) teams. There are three V&V teams comprised of dedicated experts focusing on retirement, health care and enterprise risk management. The teams work together to publicize the strength of the actuarial profession by identifying opportunities for broad-interest research and by sharing thought leadership and expert commentary with the media.

A major measurement of success of this program is the increase of media placements in high-quality traditional and online media. Through the work of the V&V teams results have been very strong, with placements nearly tripling what they were in 2009.

One of our major campaigns was in the area of retirement, resulting in the Associated Press and 206 additional media outlets publishing articles on the SOA's work. Media outlets including *The Wall Street Journal, U.S. News & World Report, Money Magazine, National Underwriter Life & Health* and *Financial Advisor* covered our work. In addition, we achieved placement on many prominent blogs, including Consumer Reports Money Blog, The Wall Street Journal's Financial Adviser Blog, and CBS MoneyWatch Blog.

All of our media placements continue to build the actuary's reputation as a source of informed and unbiased thinking on some of the most important issues facing society today.

MEMBER COMMUNICATIONS

Members are the lifeblood of the SOA, and communicating effectively and regularly with members remains a high priority. We continue to introduce additional ways not only to share information with members, but also to listen to your feedback and thoughts. As Mike McLaughlin stated in his Presidential Address at the 2010 Annual Meeting, "We can't progress if we are not able to discuss challenges, share ideas, even contradictory ideas, and propose solutions." We continue to develop ways to build and enhance our dialogue with you.

SOA Dialogue: Interactive Leader Sessions—A new member communication effort, the SOA held three interactive webcasts where the president, president-elect and executive director presented topics of interest followed by a Q&A

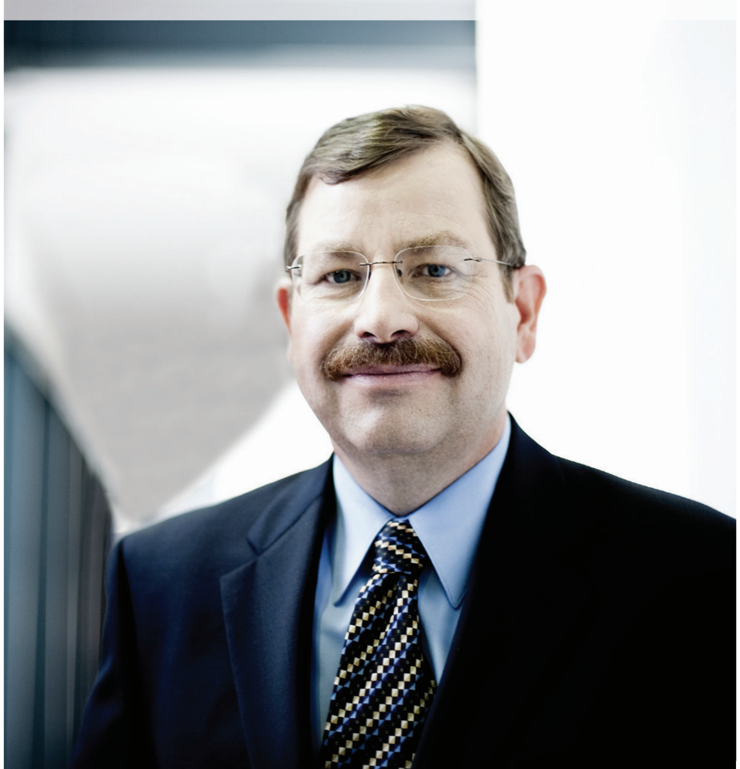
session where the leaders answered your submitted questions. This has been a successful way to have a dialogue with members on important SOA topics, and we plan to continue these sessions in 2011.

Speaking of Actuaries (SOA) Blog—The SOA was the first actuarial organization to begin a blog. Through the blog, we have had dialogue on issues like health care reform, retirement, and the role of the university in the actuarial profession. The blog will continue in 2011, and we encourage members to join the discussions.

Twitter—The SOA dipped its toes into the social media pool and through Twitter President Mike McLaughlin shared many items of interest with members regarding the SOA and the actuarial profession. You can continue to follow Mike on Twitter at PrezMike2010.

"Actuaries will have a strong role in health reform issues going forward. As policymakers interpret the law and issue regulations, ideally they will rely on actuaries' judgment and financial acumen to help form the right financial underpinnings for lasting and effective reform."

—Mac McCarthy, FSA, FCA, MAAA



Imageoftheactuary.org—The website Imageoftheactuary.org and the e-newsletter *Image Watch* are valuable tools for sharing information with members. In 2010 we refined these tools by highlighting actuaries who are living the brand every day through their personal and professional lives and providing more in-depth articles on important topics such as job interviewing and communication skills.

Actuaries in Action Video Series—Through the Actuaries in Action videos, we present the thoughts of actuaries on a variety of topics from trends and opportunities in the profession to thoughts on ERM to tips on sitting for exams. Interviews have been conducted with both more seasoned professionals, as well as with those who have more recently joined the profession. Nine new videos were added in 2010, bringing the total number of videos available to 24.

UNIVERSITY OUTREACH

As you read on page 57 of this report, the SOA's University Outreach program plays an important role in connecting directly with future members of the profession. Close to 30 schools across North America have participated in visits hosted by members of the SOA's education, communications and marketing teams, as well as by member volunteers.

In addition to the campus visit program, we enhanced supporting tools such as the website *RiskIsOpportunity.net*. We developed a video that captures the heart of a typical campus visit and posted it for download on the website. The video highlights opportunities for actuaries, shares information about the education system and exams, and features actuaries speaking about the profession.

There are also two complementary programs that are devoted to building the actuarial profession:

Career Encouragement Committee—This committee is responsible for increasing the recognition of the actuarial profession among high school students, educators and career counselors. A joint venture with the Casualty Actuarial Society (CAS), the committee develops ways to provide information on actuarial careers through printed and electronic recruiting materials and attendance at career fairs.

Actuarial Diversity Committee—Another joint venture with the CAS, this committee's mission is to facilitate the evolution of a multidimensional actuarial profession by recruiting quality talent from the African-American, Hispanic and Native American communities. The committee supports selected summer actuarial programs for high school students, reimburses qualified minority students who pass their first exam, and offers mentoring opportunities.

> "The marketing campaign has clearly paid off. It was amazing to see so many students interested in the profession. The profession will see a great deal of up-and-coming talent over the next few years."
>
> —— John Horvath, FSA, MAAA

In a joint effort, these committees launched a complete redesign of the "BeAnActuary" website. This redesign, which will debut in 2011, will feature new content, allow for better interaction and feature a clean, modern design to appeal to the web-savvy audience.

EMPLOYER AND RECRUITER RELATIONS

The SOA has continued its focus on a program it started in 2009 that reaches out directly to employers and recruiters, educating these audiences on the contributions the actuary can and does make to an organization. While 2009 focused on discovery and initial outreach, 2010 focused on processes, standards and relationship management. The emphasis evolved from building advocates for the profession to developing strategic relationships with meaningful stakeholders. For example, representatives from the SOA visited Principal Financial Group and met with a senior management team, actuarial work group and current candidates employed by the company. The SOA received a warm and positive welcome and participants were highly engaged, providing valuable insights and feedback.

The SOA has also continued its work with the Employers Council, which was established in 2009. The purpose of this council is to build a solid communications channel with the employer community and to provide the SOA with deep and early employer insight into such areas as current and future business trends, issues and challenges facing the industry, and hiring and staff development needs.

"State Farm joined the Employers Council because we feel it is important to influence the future direction of education and professional development of our actuaries. It is equally important to hear about the issues that are impacting the profession and therefore employers of actuaries," stated Nancy Behrens, vice president—Life/Health, State Farm Life Insurance Company. "I compare this group to Curriculum Advisory boards, or similar groups, on college campuses. Employers are able to share what is important in hiring and developing actuaries. And the SOA can share with us any challenges it may have in providing what we might deem as necessary. This is a win/win/win for employers, actuaries and the profession."

Council discussions have often centered on the importance of employment trends. In their role to share insights into current issues facing their businesses, the council also is keenly interested in the outlook for the profession, especially related to future risk management needs. The SOA's vision for actuaries to be leading professionals in the measurement and management of risk is at the foundation of these discussions. In response to our common needs, the council undertook a research project that assessed the current risk management landscape. The main objectives of the project were:

- Assess the current risk landscape in the energy and broader financial services.
- Gain a better understanding of employer demands for risk managers.
- Uncover any unmet needs.
- Explore how employers retain and grow their risk management staff.

Results from the project indicate that the market for risk professionals is strong, especially in the financial services sector where the changing regulatory climate has necessitated a greater focus on risk. However, there are barriers to actuaries entering this arena. For example, many in the financial sector focus on risk in the shorter term. Because they perceive actuaries as focusing on long-term risks, many do not feel that actuaries are a good fit for some of the risk management roles. In addition, referrals and networking are top resources for recruiting risk management professionals, and historically actuaries have been absent from the banking and energy sector job networks. The challenge is to identify opportunities for actuaries to gain entry into these sectors at an early stage and support advancement into these select positions.

The results were also shared with the Board of Directors at their October 2010 meeting. Following the board's discussion, it was determined a task force would be formed in 2011 to explore these results and their implications.

Around the World

Globalization is everywhere and the SOA is an international organization. Our membership is diverse, spans the globe and is rapidly growing. A key factor surrounding the growth is the respect for the SOA credentials around the world. Our strategy focuses on extending the global reach of our high-quality education and research offerings as well as better capitalizing on the intellectual capital resident in our worldwide membership.

Growing Internationally

"Internationally, people are not just choosing the SOA pathway because they want to work in the United States or Canada some day. They're choosing it because they know that the credential is the gold standard which is recognized and respected around the world."

— Darryl Wagner, FSA, MAAA

Like the industries it supports, the Society of Actuaries has been impacted by globalization. With 18 percent of SOA members residing and working in Canada and 12 percent outside of North America, our membership is geographically diverse and spans the globe. Our international membership growth has been steady, with the fastest growing international constituent group located in mainland China and Hong Kong. A key factor in our rapid international growth is the respect for the SOA credentials around the world. "Internationally, people are not just choosing the SOA pathway because they want to work in the United States or Canada some day. They're choosing it because they know that the credential is the gold standard which is recognized and respected around the world," stated Darryl Wagner.

While the SOA has been very involved in international activities for quite some time, it is appropriate that the SOA review its strategic goals for this growing component of our membership. One outcome of a better articulation of international strategic goals will be a blueprint of tactical options to better serve our members. Therefore, Mike McLaughlin appointed an International Membership Strategy Task Force in 2010. The task force's assignment is to develop recommendations for the most appropriate strategy for membership growth and providing member services internationally.

"Our employers and clients are increasingly more global, as are the frameworks under which we operate, including financial reporting and regulatory capital requirements," said Wagner, who is chairing the task force. "As the largest actuarial organization in the world, we have a lot of responsibility and a lot of opportunity." The SOA recognizes its duty to help keep its members up to date regarding global trends and to play a role in the shape and direction of the profession as it develops worldwide.

While the task force continues to work, it has proposed priorities for the SOA's international strategy as follows:

- Delivering quality service to our members around the world
- Proactively growing our global membership where the SOA fills a need
- Capitalizing on the global SOA community in terms of knowledge sharing.

It is important to note that our international strategy is not about being all things to all people. Rather, it is about extending the global reach of our high-quality education and research offerings and better capitalizing on the intellectual capital resident in our worldwide membership. It is about raising the awareness of the SOA credential globally to help make members more globally mobile and broaden their career opportunities.

There are many places around the world where there is a need for education, continuing professional development, and research—the things that the SOA provides. Part of the strategy is to meet those needs in places where it makes sense, with the key being that it benefits SOA members and the actuarial profession. The SOA's international strategy should increase the value of the SOA credentials to all who hold them.

As mentioned earlier, the SOA is already quite active internationally. For example, the International Section for several years has sponsored financial reporting seminars in Hong Kong, Thailand, the Philippines, Vietnam and Taiwan. Some of these events have been cosponsored by the Financial Reporting Section. In addition, there have been webcasts developed with an international audience in mind, such as the Global ERM webcast sponsored by the Joint Risk Management Section, as well as two Mandarin language webcasts developed by the SOA's China Region Committee.

On a broader scale, the SOA has been involved in several collaborative efforts such as a joint textbook development project with the Institute of Actuaries of Australia and an examination benchmarking process with the Institute and Faculty of Actuaries.

The SOA also sponsors the international experience study, a tool that we offer to developing countries who may not have had experience studies in the past. Finally, the global CERA is a great example of how an initiative started by the SOA can change the landscape of the profession globally.

"Our profession has a great deal to contribute to the global conversation on risk management, retirement planning, health care, social insurance and a vast range of analytical matters. By working together, we will ensure that our voices as a profession are heard," said McLaughlin. SOA members can expect to hear more throughout 2011 about the progress of the project.

Global CERA Work

SOA representatives to the CERA Treaty Board, the Interim Review Panel and the application review subgroups have worked diligently over the last year to influence the implementation of the Global CERA Treaty in a manner consistent with SOA expectations. These efforts include the establishment and adoption of proper criteria for use by the Review Panel for review of signatory applications, as well as direct participation in those reviews. The interorganizational cooperation necessary for the work of the Global CERA has also brought about significant learning opportunities for our representatives with regard to remaining competitive in the world market.

CERA—The First Global Actuarial Credential

"ERM is the first actuarial specialty to develop in the age of the internet. There is little difference in ERM from one part of the world to another. The Global CERA will help to keep it that way and will help actuaries working in the ERM field to benefit from a global community of practitioners."

— David Ingram, FSA, CERA, FRM, PRM

The CERA is the first global actuarial credential. The consistency of the educational requirements is crucial to the certification. The CERA Global Association (CGA) is taking great pains to ensure the quality of the credential remains at the level that was originally intended by the SOA. "This has been structured in a way that allows us to maintain the overall quality of the credential as it was originally intended by the SOA," stated Francis Sabatini, FSA, CERA, MAAA, CGA board member.

There are three credentialing organizations today, with the possibility of three more. "But there are six other associations that signed the Treaty that ultimately might become board signatories. Plus there are several other organizations that have expressed interest in joining the Treaty, so it really truly will become global," stated Sabatini.

Per Mike McLaughlin, "Offering the CERA globally will facilitate the free movement of actuaries internationally. It will also increase the influence of the actuarial profession in the world of ERM and will allow CERAs to have an internationally recognized credential."

May 7 – The CERA Global Association (CGA) was formed as a legal entity under Swiss law. It is a "Verein," an association of associations, whose members are the actuarial societies that signed the Treaty on Nov. 14, 2009.

Sept. 1 – The SOA transferred ownership of intellectual property to the CGA and marked the final step in creating the new organization and evolving the CERA into a globally owned credential.

January · February · March · April · **May** · June · July · August · **September** · **October** · November · December

A new website, *www.ceraglobal.org*, was launched and includes information on qualification routes, the main learning objectives from the syllabus and information on the actuarial associations in the global CERA Treaty.

2009 Financial Results and 2010 Financial Results (Nov. 30, 2010)

The Society of Actuaries is a non-profit organization—a financial entity with revenues and costs that must be carefully managed to succeed in fulfilling its mission. In setting the annual budget, the overall goal is to provide resources for ongoing operations and strategic initiatives, while maintaining membership equity at acceptable levels.

The 2009 results and future budgets reflect an investment in the actuarial profession and strategic initiatives determined by member and candidate research. The SOA seeks to provide significant value to members as well as the resources the organization needs to achieve its core goals and objectives for years to come.

The SOA has three principal revenue streams: member dues, examination fees and fees charged for professional development. Other sources of revenue include fees for experience studies and research, sponsorships, miscellaneous revenues and investment income.

Total revenues in 2009 were $35.6 million; 2010 revenues are budgeted to be $38.5 million.

Historically, basic education and professional development are not only self-supporting, but also contribute to and help cover research projects and operating costs. Membership dues have been used principally to fund the cost of providing services to members.

The SOA 2009 financial results showed a management-basis increase in net assets of $1,969,000, slightly lower than the budgeted amount.

The 2010 budget continues to provide resources for the SOA to invest in the future of the actuarial profession. A comparison of the actual 2009 results, the Board-approved 2010 budget, and actual results through Nov. 30, 2010 are shown in the accompanying chart.

Revenues	(in 1,000s)
2009 Actual	$35,570
2010 Budget	$38,481
2010 Actual through 11/30/2010	$34,455

2009 Revenue Details	(in 1,000s)
Examinations	$18,524
Dues	$ 9,877
Professional Development	$ 4,877
Other	$ 2,292
Total	$35,570

Change in Net Assets	(in 1,000s)
2009 Actual	$ 1,969
2010 Budget	$ 374
2010 Actual through 11/30/2010	$ 5,190

Membership Equity	(in 1,000s)
2009 Actual	$23,099
2010 Budget	$23,473
2010 Actual through 11/30/2010	$28,289

The above figures use our management basis of accounting, which is slightly more conservative than GAAP. Membership equity for 2009 does not include an additional $2.2 million of designated funds, which are mostly sections' surpluses.

Membership equity is measured against the following year's expenses, standing at 60.1 percent at the end of 2009. The current membership equity position of $28.3 million is 70.5 percent of annualized expenses. The target range of membership equity established by the Board is 50 to 100 percent.

Under the Board's leadership, the strength of the SOA's financial position will move strategic ideas forward and enhance our focus on the future of the profession.

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Retiring Board of Directors

We would like to recognize the Board members whose terms have expired and thank them for their efforts in serving the needs of the membership and the actuarial profession.

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ELECTED BOARD MEMBERS

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Christopher J. Fievoli, FSA, FCIA

Philip Gold, FSA, FIA, MAAA

2010–2011 Board of Directors

We would also like to welcome the 2010–2011 members elected to the Board in August 2010.

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Darryl G. Wagner, FSA, MAAA

Donna Weninger, FSA, MAAA

Welcome President Segal

We are proud to introduce Donald J. Segal, FSA, EA, FCA, MAAA, as 2010–2011 president of the Society of Actuaries.

Donald Segal is vice president at Aon Hewitt in New York City. He specializes in the analysis, interpretation and application of laws and guidance as they apply to qualified retirement plans. Donald is also involved in retirement plan design.

Donald has served on the SOA Board of Governors, Pension Section Council, Knowledge Management Strategic Action Team and other committees. He has previously served on the Conference of Consulting Actuaries Board of Directors (a former vice president). He has also served as vice president for pensions of the American Academy of Actuaries, and as a member of the Academy Pension Practice Council and Pension Committee (formerly chair of both).

He served as chair of the IRS Advisory Committee for Tax Exempt and Government Entities (2001–04) and as a member of the Advisory Committee on Examinations to the Joint Board for the Enrollment of Actuaries (1988–2002).

Donald is a frequent speaker at meetings of the Society of Actuaries and Conference of Consulting Actuaries, and at the Enrolled Actuaries Meeting. He has served on program committees for the Society of Actuaries, Conference of Consulting Actuaries Annual Meeting (chair 2002) and the Enrolled Actuaries Meeting (chair 2000 and 2004). He also participates in committees that meet with the IRS.

Donald originated and organized the Funding Reform Advisory Task Force—a group of actuaries, lawyers and other professionals whose purpose was to provide input to the federal agencies responsible for drafting guidance under the Pension Protection Act of 2006.

In October 2006 Donald was honored by the Society of Actuaries with the John E. O'Connor Distinguished Service Award in recognition of his volunteer service to the Society of Actuaries and the actuarial profession. He received the Conference of Consulting Actuaries Lifetime Achievement Award in October 2008, and in October 2009 received the Jarvis Farley Service Award from the American Academy of Actuaries in recognition of his service to the American Academy of Actuaries and the actuarial profession.

He is a graduate of Yale University.

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