



Article from

Pension Section News

February 2017

Issue 91

Bringing Economics and Actuarial Science Together: An Interview with Joseph Goodman

INTRODUCTION FROM ANNA RAPPAPORT

For my fifty plus years as an actuary, there has been interest to new kinds of jobs and in new areas. I have served as a facilitator at about a half dozen Fellowship Admission Courses over the past decade. At each course, I have been interested to learn about the career paths and decisions made by the new Fellows. Usually there are some people who have made different choices and have different jobs. At the June, 2016 EAC, I met Joseph Goodman. Joseph has a Ph.D. in Economics from Northwestern university in Evanston, Illinois. He decided to add actuarial studies to his portfolio. He works in an economics consulting firm. Some of his work is connected to pensions. I think many pension actuaries will be interested in his work.

What kind of work do you do? What types of retirement plan issues do you encounter in your work?

I work for Compass Lexecon, one of the world's leading economic consulting firms. Compass Lexecon specializes in providing economic analysis for complex issues, often in a litigation context. I have worked on three cases involving pensions. Each focused on different retirement plan issues.

The first case revolved around actuarial assumptions. My team was hired to analyze the "true" level of underfunding for a group of public pensions plans. Each of the plans issued annual financial reports with purported funding levels, but unrealistic assumptions led to unreliable estimates. In particular, the discount rate assumptions were too high. My team researched which discount rates were sensible from both theoretical and market-oriented perspectives, and we translated those rates into funding levels.

The second case hinged on whether a private pension plan qualified as "Top Hat." Most private pension plans are regulated according to the Employee Retirement Income Security Act (ERISA) and are required to maintain certain funding levels. Top Hat plans, however, are exempt from many of these regulations. To qualify as Top Hat, a pension plan must be maintained exclusively for a select group of management or highly compensated employees. In this case, the pension plan covered numerous employees, but all of them had management responsibilities.

The plan sponsor believed that their plan qualified as Top Hat. Plaintiffs disagreed.

In the third case, a deferred compensation plan had its crediting rules amended. Most retirees ended up earning less under the amended system than they would have under the original system, so they moved to certify a class action. The key question in this case was whether all plan members were similarly affected by the rule change or whether retirees' individual investment decisions determined harm. The Court ruled that individual issues predominated and denied class certification.

What prompted you to pursue actuarial science? Does the combination help you find different solutions?

I have always been interested in real-world problem solving and in applications for economic reasoning. As a senior in college, I deliberated between studying for a Ph.D. in economics and pursuing actuarial science. I opted for economics. After graduation, I joined an economic consulting firm and realized that actuarial science could actually provide professional synergies. The Ph.D. requires deep learning on specific topics, and the FSA process provides basic exposure to a broad range of empirical concepts and techniques.

This combination is helpful in economic consulting because of the tremendous variability from case to case. Each project requires a different approach to modeling and problem solving. The heart of our analyses always uses an economic approach, but tools from other fields are often useful. Furthermore, opposing experts come from a wide array of backgrounds and employ a wider array of techniques. The actuarial background helps me understand their reports and develop appropriate responses.

What is different and what is similar about the approaches to problem solving by people with economics and actuarial backgrounds?

My impression is that there are more similarities than there are differences. Empirical economists and actuaries use overlapping toolsets to answer similar questions. The focus may be a little different—such as economists with fancy regression techniques or actuaries with fancy statistical distributions—but the tools are similar. Both fields use messy, real-world data to fit models and make predictions.

The bigger difference is between academic approaches and practical approaches. Academics in applied economics are primarily concerned with developing new techniques. The methodology used in problem solving is often more important than the quality of the solution. In contrast, practical approaches emphasize good solutions over cutting-edge techniques.

What else would you like to tell us?

Many people believe that Big Data will solve every empirical problem. I think that is naive. It's true that bigger datasets allow for more complex analyses and greater statistical power, but there are downsides as well. Being able to test many hypotheses at the press of a button encourages p-hacking as people test endless combinations in search of statistical significance. This leads to false positives and spurious results.

Conducting empirical analyses may be easier than ever, but quality solutions remain difficult. They require analysts who

can understand data accurately, interpret results, and distinguish between competing narratives. ■



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