BA, Mathematics and BA, Economics, East Stroudsburg University

EARLY INFLUENCES

What sparked your interest in mathematics? When did you know that you would use math as a path to your career?

I had an unreasonable fear of math in high school. It wasn't until I went to college as an economics major and realized that a good grasp of calculus would contribute greatly to my understanding of economic principles that I dared to really give mathematics a go. Thanks in large part to professors who were passionate about mathematics and the teaching of it, I came to love calculus.

Any memorable courses or experiences that made a difference in directing you to your career?

The class that probably set me on a career path that involved math was econometrics. It brought my econ and math worlds together. Applying regression techniques to economic problems and theory was fascinating. While not a direct road, the actuarial profession was a natural fit.

CAREER/CAREER PATH

Describe your current position and briefly, the path you took to get there.

I am an actuary at an employee benefits consulting firm. Pension actuaries typically help companies who sponsor pension plans determine their pension plan's financial liabilities. Valuing these liabilities is dependent on quantifying expectations of future events, both demographic and financial.

Combine an aging population with today's low interest rate environment and actuarial valuations actually make news (see the front page of the Wall Street Journal, *October 28, 2014) when a comparison of assets to liabilities demonstrates significant underfunding for a company's (or city's or state's) pension plan. This underfunding can have significant implications, from the plan sponsor to government tax policy.*

Over the years I have migrated into area of administrative outsourcing of pension plans. In this area, we take over the administrative management of a pension plan's benefits, which involves data management, programming of web and benefit calculation tools for plan participants to use, and development of applications to track and manage participant servicing.

What is a typical day at work for you? Please list your job responsibilities. What are you responsible for?

I get to do a variety of things. At this point in my career, I have moved into a management role, supervising staff (of mostly math geeks) and managing our services and clients.

What do you like best and least about your profession? What is the stress level associated with this type of position?

There are two general things that I like best about my profession. The first is something that I suspect is common to most fields of applied mathematics. Mathematicians are problem solvers and the practical applications of math to real world problems gives us an opportunity to make a meaningful difference in people's lives. In my profession, the data we manage and the programs we write are essentially digitized versions of real retirement benefits for real people. We help make a difference in people's retirement security. The second thing I like about my specific line of work is that it allows me to work in a variety of different fields at once—data management, programming, people management, client consulting, pension law, customer relations. There's always variety.

We provide client consulting and services to plan participants, which can generate a fair amount of stress at times. That's what I like least. But I think stress comes with the problem solving territory. Actuaries often are cited as the number profession in job surveys in part due to low stress levels. I'm convinced those are the actuaries who work for insurance companies.

CAREER EXPECTATIONS

How/why are applied mathematics and/or computational science important to your industry? How are they used?

Actuaries analyze the financial costs of risk and uncertainty and use mathematics, statistics, and financial theory to assess the risk that an event will occur. Applied mathematics is the heart of what actuaries do.

Where do you see the future of math in industry or in your particular career?

I expect that stochastic modeling will be the future norm in the actuarial profession as practitioners figure out how to communicate the results of stochastic modeling to plan sponsors and participants in a way that is as meaningful and easy to understand as deterministic 'best estimates' that are still most prevalent.

ADVICE

Undergraduates should investigate an actuarial career and the corresponding professional exams as early as possible. Getting a head start on actuarial exams is a big career plus.

SALARY

Per the DOL, the median pay is about $95,000. Starting salary is about $45,000 for someone with an exam or to. Senior positions can go into six figures.

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