



### Article of the month:

#### **Reinvent in the Age of AI**

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***Dave Snell (Actuary Magazine)***

As an avid futurist, I enjoy the opportunity to share my thoughts about the potential impact of technology. But as an actuary, I must first qualify my predictions: Much of what I will describe in this article is going to happen, but some of my predictions will be wrong. Unfortunately, I have no confidence limits or meaningful probabilities that I (or anyone else) can apply to them. As many have said, "Predictions are difficult—especially about the future." I will offer some historical perspectives on the advances made in artificial intelligence (AI) generally, and machine learning (ML) more specifically, and then offer some predictive modeling perspectives to extrapolate these advances for health care and longevity. [Read More](#)

### Investments

#### **Perceived vs. Revealed Risk Tolerance For Efficient Asset Allocation**

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***Aman Kesarwani, Walter Kissling, Juan Rassa, Hariom Tatsat (SSRN)***

Risk tolerance is a key parameter in asset allocation and subsequent portfolio management. The risk tolerance is usually estimated using the investor's ability (age, wealth etc.) and willingness to take risk. However, investors are subject to many behavioral biases and their risk perception varies significantly with the market. This paper uses the actual data of the investors and establishes the fact that investors are poor judges of their own risk aversion and their risk tolerance changes with the recent market movement. The paper then discusses the methodology to compute or correct the risk tolerance of the investors using the behavior of similar investors in different market condition. Machine learning techniques are used to identify the clusters of investors with significant change in risk tolerance and underlying factors driving the change. The asset allocation with this method of computing risk tolerance is more likely to maximize the utility of an investor. Also, having a portfolio consistent with their true risk profile will let the investors stick to their long run strategy without overreacting. [Read More](#)

### Financial Risk

#### **Objectives and Challenges for Stress Testing**

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***Richard J. Herring, Til Schuermann (SSRN)***

Stress testing proved to be an effective crisis fighting tool in the Great Financial Crisis and has since become widely used by regulators and financial institutions to test resilience to financial and economic shocks. This served two objectives: (1) to identify and remediate banks with a capital shortfall, and (2) to restore confidence in the core of the banking system by requiring that banks eliminate any regulatory capital shortfall promptly either by raising capital in private markets or, if unable, from a government backstop fund. The objectives of a stress test will determine six fundamental choices in structuring the exercise: (1) the design of stress scenarios; (2) the risk exposures to be stressed; (3) the range of institutions to be tested, the length of the scenario and the intervals over which shocks are measured; (4) the development of models to map shocks into

outcomes and impact on individual bank financials and on the banking system; (5) the choice of criteria to determine whether banks pass or fail the stress test; (6) the decision about what to disclose to the public. But stress tests are no panacea. We discuss a range of challenges to improving the effectiveness of stress tests, such as incorporating nonfinancial risks like cyber, taking into account second-round effects of shocks, broadening the scope beyond just banks, and resisting a tendency to disaster myopia as memories of the financial crisis recede into the past.

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## **iTDFs: A formula to end retirement blues?**

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*Per UK Linnemann (IPE)*

### Key points

- iTDFs combine two multi-asset funds, varying the asset mix algorithmically over time
- They can be used in the accumulation and decumulation phases
- The concept aims to provide a smooth income scheme without the provider having to assume mortality risk

All over the world, the financial industry is grappling with the ‘ideal’ post retirement investment strategy and with how best to pay out income in retirement. There is an arms race and the question is the following: who will win the retirement agenda?

There is a great deal at stake. For many providers it could be a life-or-death proposition on whether they retain customers and members. On the other hand, there are huge opportunities for those who get it right, including opportunities for asset consolidation and for attracting a greater number of older investors. [Read More](#)

### **Actuarial Models**

#### **Discussion on “Periodic or generational actuarial tables: which one to choose?” (by Arnold et al.)**

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*Ljudmila Bertschi, Mauro Triulzi, Urs Barmettler (European Actuarial Journal)*

Longevity risk—the risk of paying out pensions and annuities longer than anticipated—is a major risk for the sustainability of the Swiss retirement system. Each pension fund (collective foundation incl.) is responsible for sufficient reserving and has to set up various additional actuarial provisions to support the guarantee of pensions in payment. The size of the pension liabilities depends on the actuarial mortality table and the discount rate used.

In Switzerland there is only one official actuarial mortality table: LPP/BVG (hereafter LPP), available for private pension funds. Another table, VZ, is used for Swiss public pension funds. Both offer generational and periodic mortality tables, which are now updated every 5 years and are not substantially different from each other (in relation to the level of future life expectancies) because they are partially based on the same mortality statistics and use the same forecasting technique.

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## Banking

### Outsourced model validation: is it viable?

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**Steve Marlin (Risk.net)**

Cost pressures, a multiplicity of models and heightened regulatory requirements are leading some banks to consider outsourcing. A group of European banks is working with Standard & Poor's to create a risk model utility. But there are real questions around whether such a thing can work in practice – especially for US banks. Crisil, a unit of S&P, is working with HSBC and three other large European banks on a risk model. [Read More](#)

## Trending topics

### Private equity investors see savings in AI

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**Rob Mannix (Risk.net)**

Funds of funds in private equity have started using intelligent algorithms to narrow down the targets they consider investing in, taking a lead from how some of those funds pick their own investments. In the coming months, the fund-of-funds unit at Swiss asset manager Unigestion will begin using a machine learning algorithm to pick about 400 funds for the firm to look at more closely from the wider universe of about 1,500. [Read More](#)

## Digitize or Die!

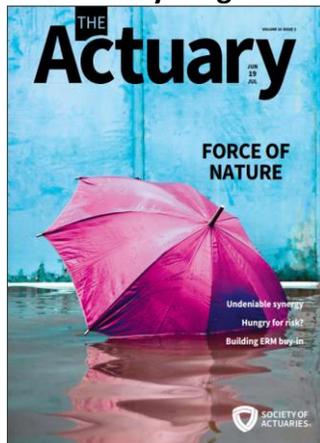
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**Marshel Li (Actuary Magazine)**

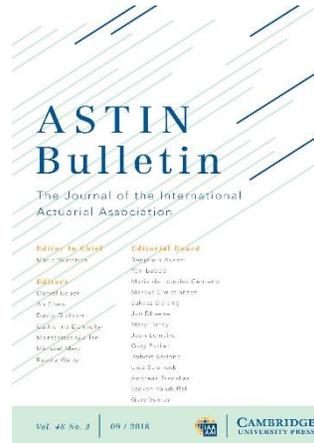
The development of technology is usually beyond human expectations. Years ago, people never imagined that a simple device (cell phone) plus a single software (application) with one sign-in could be the gateway to so many different products or services. For example, super apps in China (WeChat and Alipay) have bundled versatile functions, including instant messaging, social media, electronic payments and taxi reservations. [Read More](#)

## Resources (click upon image to access)

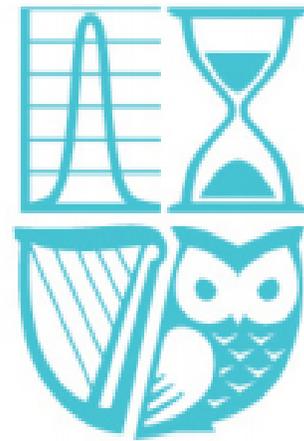
The Actuary Magazine:



ASTIN Bulletin:



Irish SoA Database:



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