Q+A

The New Revolution in Retirement Income Adequacy

Canadian actuary and academic researcher Bonnie-Jeanne MacDonald explains why we need to scrap the 70% rule—and what to use instead.

For years, people have used the 70% target for employment earnings replacement in retirement, but your research argues against it. Why?

I've been doing research on retirement income adequacy for over 10 years. Although people have been using the 70% measure as far back as I can tell, they generally do not adequately justify why they are using it. No matter how much digging I did, I was unable to find a clear demonstration that it's actually valid. No one has ever looked at a sample of real workers and tested whether or not hitting 70% would maintain their living standards after retirement.

So my team and I decided to test it. We used the most sophisticated model in Canada: Statistics Canada's LifePaths dynamic microsimulation population model, which is what the federal government would use to test public policy changes—like modifications to Old Age Security or the Canada Pension Plan.

What we found was that the conventional replacement rate wasn't doing the job it's supposed to do. In fact, there was nearly no correlation between people who were able to maintain their standard of living after retirement and the 70% earnings replacement rate.

The issue isn't whether 70% is too high or too low, but that employment earnings for an individual worker in a single year aren't representative of someone's standard of living. If you take two workers with the same earnings, their living standards can be completely different. One could be supporting a large family; she could have a spouse who's working (or not working); her earnings may be unusually high/low that year; she may or may not have a home; she may be accumulating debt and/or saving differently.

How did that lead you to the Living Standards Replacement Rate (LSRR)?

It was important to me to help people in practice and not just in theory, so I needed to come up with an alternative way of measuring retirement income adequacy.

Over the past two years, I've been putting together what I've learned from studying hundreds of papers and articles to come up with a measure that not only makes sense to people but also combines best practices from the academic world. That's the Living Standards Replacement Rate (LSRR). The LSRR components have been around for a long time—my contribution was to combine them into a single, distinct measure of retirement income adequacy that offers a real alternative to the conventional replacement rate. It bridges a gap between good science and industry need.

My research all points to the same thing: as financial analysts and advisors, we can't take shortcuts anymore. We've got to treat people as a whole and look at their entire financial picture by taking a comprehensive, integrated approach.

Why is the LSRR a more accurate measure?

The LSRR directly calculates what the conventional replacement rate is trying to approximate. Retirement income adequacy occurs when a person can maintain the same standard of living after they retire as they did while working. In a nutshell, the LSRR says people will be able to maintain their standard of living if they have the same amount of money to support themselves *after* retirement as they did *before* retirement.

Factors you'd want to include are other sources of income (such as government transfers); different types of savings (registered and non-registered, as well as non-financial savings such as housing wealth); debt; the number of people the money will be supporting (i.e., children); and so on. It's crucial that the calculation considers the entire family and covers a representative number of years.

People's circumstances are so varied. Simplistic rules of thumb can be misleading—and waste a lot of people's time (and money!). Academics, public policy analysts, plan advisors and financial planners work hard to gather the necessary data and develop sophisticated models for retirement income adequacy—but if the target used to evaluate "adequacy" isn't valid, then all of that work really goes out the window.

What's the broader impact of the LSRR on Canadians' retirement security?

At the public policy level, we need a valid measure of "adequacy" to decide whether or not there is a retirement income crisis—and, if there is a problem, where is it? Is it for single people? Women? Parents? Immigrants? Then, once you figure out where the gaps are, you can use the LSRR to test policy changes.

At the next level—plan sponsors and advisors—the LSRR is a great tool to understand how well the pension plan is serving the participants. A measure that clearly shows whether or not people are prepared for retirement is going to be valuable for employers. If there are participants they're concerned about, then it helps signal who those people are so employers can take proactive steps to help them. It also enables plan sponsors to test the true impact of changes to plan design on participants' retirement income security.

At the individual level, a person can do better financial planning with a measure like the LSRR that shows how much money she will have to support herself after retirement, and how much she has to support herself right now. If those two numbers aren't the same, is she willing to reduce her spending by 20%? Is she planning to improve her living standards after retirement? You can have a much clearer discussion about expectations.

How does all of this tie into the new focus on decumulation?

Retirement savings decumulation has been another line of research of mine over the past seven years—and the best drawdown strategies are going to depend on more than just savings alone. It's a lot easier to give rules of thumb and treat the parts, like savings and pension, in isolation. But that's not helping the people, because that's not what their true outcomes are going to be. What could look like the best drawdown strategy when you ignore taxes and government transfers isn't necessarily the best strategy once you include those components.

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What are your future research plans?

From the response I've been getting from industry, academics and governments, there's a high need for better guidance on understanding retirement income adequacy. My goal for the next while is to keep talking to people and explaining how they can adopt the LSRR to help themselves, their citizens, their clients or their plan participants achieve a financially secure retirement.

The work I've been doing has culminated in a research paper, co-authored with senior researcher Kevin Moore from Statistics Canada, and Lars Osberg, a well-known Canadian economist from Dalhousie University. The paper will be published in September in the international actuarial journal *Astin Bulletin*. Although it's a scholarly paper, it was written with industry in mind, since my primary desire is for the LSRR to be adopted as widely as possible. It includes an entire section with practical considerations, based on many long discussions with industry veterans, policy analysts, plan sponsors and advisors adopting the LSRR framework.

The conventional replacement rate is so entrenched in the pension industry, and so much depends on it. But my message is, it simply has no empirical evidence, and it's not doing the job it was intended to do. The LSRR provides a more accurate, understandable and consistent measure of retirement income adequacy—and it's the first real alternative to the conventional replacement rate. It's a big deal.

Bonnie-Jeanne MacDonald is a Fellow of the Society of Actuaries and an academic researcher in the Department of Economics at Dalhousie University in Halifax, Canada. Her research focuses on financial security for an aging population. By combining best practices from the academic world with contemplation and ingenuity, while collaborating with the top minds in this field, her goal is to improve the industry of retirement income security and, ultimately, help people in practice and not just in theory.

Bonnie-Jeanne received the 2001 Gold Medal in Actuarial Science (Hon BSc) at the University of Western Ontario in Canada, and a PhD in Actuarial Mathematics at Heriot-Watt University in Scotland. In 2011, she was selected as one of the top young economists by the Canadian government to attend the Lindau Nobel Laureate Meeting in Germany. She is a regularly invited guest speaker, and her ideas are increasingly being adopted by industry, government, and academia, both in Canada and abroad.

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