Math undermines fund strategies

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With just two weeks to go to the March 1 deadline for contributing to a registered retirement savings plan, Canadians face confusing potential investment choices. They must decipher a host of investment mutual fund alternatives and make difficult decisions amid a constant barrage of advertising pitches, many of which present only half-truths.

An example are the many advertisements for deferred sales charge rebates from bank-owned discount brokerages. The ads have generated more than 100 complaints directed at the Investment Funds Institute of Canada.

Where can the consumer turn to for the real goods? "Trust the math, not the marketing," says Dr. Moshe Milevsky, author of a new book, *Money Logic* (Stoddart, Toronto, 1999), that aims to help investors figure out the other half of the statements marketing people are not providing.

While math is seldom the strong suit for most modern investors, Dr. Milevsky has an M.A. in mathematics (and a Ph. D. in finance) from York University.

Money Logic provides objective, number-oriented assessment of several key questions RRSP investors likely are asking themselves this month. It is particularly strong on looking at risk and return, and the true costs of such popular products as index-linked GICs and segregated funds. It also takes dead aim at much of the unchallenged dogma of the mutual fund industry, such as dollar cost averaging, asset allocation, and international diversification.

Dr. Milevsky focuses on the either/or nature of the major financial decisions Canadian investors face and the strong emotions created by bad investment decisions.

"Each outcome is uncertain, hindsight is 20/20 and the regret is painful," is one way the author links math to human emotion.

Dr. Milevsky deals with mathematical probabilities, not with gut-based certainty. Thus, while dollar cost averaging is good in that it forces investors to save automatically for their long-term goals, Dr. Milevsky finds the odds favour lump-sum investing because stocks are more likely to rise over the long haul.

Indeed, Dr. Milevsky's views on the merits of equities will be welcome by mutual fund marketers, as he reiterates the "stocks for the long run" philosophy of fellow academics Chris Robinson (a York colleague) and Jeremy Siegel (author of *Stocks for the Long Run*).

Dr. Milevsky confesses that if he were designing his own retirement portfolio at age 65, he would invest 100% in equities. But at the same time he would hedge the bet by buying put options — funded by selling calls — just in case a sharp market correction was imminent.

But his views on global diversification are less conventional. As global equity markets become more correlated — moving up together or down en masse — he finds that "the practical concept of diversification is not as powerful as theory would suggest." If and when the federal government chooses to permit more foreign content in registered savings plans, it may be too late to benefit from it, he adds.

Index-linked GICs may be adequate products for small investors who are new to equity markets, and who have short time horizons or are risk-averse. But Dr. Milevsky suggests more sophisticated investors with a longer time horizon and more than $10,000 to invest can do better by "cooking their own" downside protection — either by using a zero coupon bond in combination with a call option, or Toronto Index Participation units (TIP/TSE) in combination with a put option.

As for seg funds, Dr. Milevsky views their death benefit as "100 times more valuable to a retired 80 year old than it is to a 30 year old." He also provides a useful benchmark for evaluating the value of a seg fund guarantee against investing in an identical mutual fund. For a traditional growth fund with 15% annual volatility, the justifiable increase in management expense ratio is 42 basis points, or 0.42%. The lesson for investors is that any seg fund charging a full 1% on top of the underlying mutual fund's MER is charging two and a half times as much as the guarantee is worth.

Dr. Milevsky's conclusion is seg funds might be a bargain for older investors or retirees (because of the death benefit) and small business owners concerned with bankruptcy will also benefit (due to the the creditor-proofing features).

Younger investors are likely subsidizing older seg-fund investors. He also notes that it is "a very big assumption" that the typical MER of 1 to 2% of the underlying mutual fund is justifiable, let alone the insurance surcharge.

The book offers a fresh perspective on whether to pay down a home mortgage before making maximum RRSP contributions.

The RRSP makes sense if you're sure it can generate higher returns than the interest paid on the mortgage. This is also a more diversified option, since paying down the mortgage further concentrates your portfolio around the single asset class of residential real estate. The decision to contribute to the RRSP is equivalent to borrowing money to invest (or leveraging).

Alternatively, Dr. Milevsky looks at the traditional compromise of applying the RRSP-generated tax refund to paying down the mortgage.He provides a mathematical model to help investors weigh the tradeoffs of their personal situation. But even then, he argues assumptions like 10% RRSP returns may not prove valid — and, conversely, mortgage rates may not remain stable.

As for the more direct leverage route, Dr. Milevsky presents the "good, the bad and the ugly" of borrowing to invest in the stock market. While recognizing the possible upside, he shows there's a one-in-five chance of losing one quarter of your initial investment if you go the 100% leverage route at margin interest of 5%. Even though the interest cost is tax-deductible and market returns are treated as capital gains, "the odds of suffering a severe loss of your original equity are quite high."

Dr. Milevsky addresses the critical question of when (or whether) to convert an RRIF to an annuity. Because RRIFs can always be converted to annuities, but not vice versa, he recommends deferring the conversion to an annuity to well into retirement. Investors continue with an equity-heavy RRIF and in effect pay themselves an annuity until perhaps age 80. An eventual move to an annuity eliminates the usual anxieties about outliving your money.

It's all splendid stuff — and the perfect antidote to the RRSP advertising blitz.

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