Case Study

The following case study walks you through the issues involved in determining the optimal RRSP contribution strategy, as well as factors to consider when defining your Action Plan.

Situation

Tom and Anne Smith are in their late 30s, and with the extra expenses of starting a family and buying a new home, are behind on their RRSP plans. Anne is at home full time, taking care of their two children, aged 3 and 5, and has $8,000 of unused RRSP contribution room. Tom has a stable income of $86,000 a year, but has not been able to maximize his RRSPs annually, averaging contributions of between $1,000 and $4,000. He now has $25,000 of unused RRSP contribution room. Tom and Anne have $2,000 available to contribute to an RRSP this year, and are confident that they can invest at least $2,000 each year over the next decade.

Tom and Anne currently have no written plan or strategy for achieving their retirement goals, but would value a simple approach that could help increase the effectiveness of their current method of investing "when they have the money". With only a small amount saved in RRSPs, they are concerned that their ever-increasing unused RRSP contribution room could mean that they don't get to enjoy the retirement they were hoping for.

Opportunity

The Smiths are typical of many Canadians who want to save to secure a comfortable retirement but find themselves falling further behind on their RRSP contributions. With low interest rates, does it make sense for them to borrow to temporarily "catch up" on their unused RRSP contribution room? If it does make sense to borrow, what is the best amount to catch up, recognizing that Tom is about $16,000 into a new tax bracket? What can they do to improve the effectiveness of their savings plan, and feel more secure about their future?

Behavioural Assessment

The biggest weakness in Tom and Anne's current savings approach is that there is **no plan**. There is no structure or discipline to how they are saving. When there is no plan, almost any plan is an improvement.

Using a more effective savings approach

Like most investors, the Smiths use an **"ad hoc" approach** to retirement savings, contributing whatever money is left to invest, when they are in the mood to invest. This usually happens in late "RRSP season", at a time when money available to invest is usually low due to spending on Christmas and other commitments like vacations.

The Smiths could improve their discipline and predictability of their retirement plan by using an **automatic "pay yourself first" savings approach**. Instead of investing whatever is left over at the end of the year, they could invest for their future a small amount every month so that the money isn't even missed. Periodic contributions could be automatically made with pre-authorized withdrawals from a chequing account or right off of Tom's pay cheque. This approach of paying themselves ahead of other obligations or temptations eliminates the risk that they won't have money left to invest, and establishes the habit of saving.

While an automatic savings approach is a big improvement over the "no plan" approach of ad hoc investing, it is still vulnerable to being reduced and/or suspended. If, two years later, Tom "needed" to buy a boat, he might be tempted to suspend his retirement savings.

For many investors, a **forced savings approach** is an **even more effective solution** to many of the behavioural risks that reduce the amount saved.

If the Smiths have long-term investable cashflow of at least $2,000 a year, they could use some or all of this for payments on an investment loan, to catch up on some of their unused RRSP contribution room. Once started, the **loan payments become a forced savings plan**, like a mortgage, that is not likely to be stopped. As long as the Smiths can comfortably handle the payments without any financial or emotional strain, paying off a longer-term RRSP loan **locks in a higher level of discipline** and commitment.

In terms of reducing all behavioural risks, the most effective strategy is to **combine the benefits of forced and automatic savings approaches**, by using some portion of investable cashflow for payments on an RRSP catch-up loan, with the remaining portion contributed automatically every month.

Investing all intended dollars

The simplest way for the Smiths to increase their retirement plan is to **ensure that all of their dollars intended for retirement savings are actually directed towards retirement**. When the Smiths spend their RRSP refunds, as most Canadians do, they are left with the false impression that they have contributed more to their retirement savings than they really have.

Example: To illustrate these issues and keep the math simple, let's pretend that Tom has $1,000 to invest and he is in a 50% tax bracket. Recognize that the $1,000 is an after-tax amount — dollars that have already been taxed. If Tom puts the $1,000 in his RRSP, and spends his $500 tax refund ($1,000 contribution x 50% tax), his net after-tax cost is only $500 ($1,000 - $500 refund). Thus, Tom's after-tax cost, or after-tax commitment towards his retirement is only $500, not the $1,000 after-tax amount that he started with and intended to save. Unfortunately, Tom's RRSP account statement reports that he contributed $1,000, further reinforcing the false belief that he has invested $1,000 towards his future.

The significant, yet overlooked, **behavioural risk of RRSPs** is that they **often convert after-tax dollars into before-tax dollars** inside of an RRSP, which when withdrawn later are 100% taxable again. In other words, the common approach of investing in RRSPs and spending the refund reduces the actual amount intended for retirement to an amount that is 22-46% less, depending on your tax bracket. This significantly reduces the effectiveness of RRSPs as a retirement savings strategy.

How far a vehicle takes you depends both on the amount of fuel you put in it and the efficiency of the vehicle. To secure the largest possible retirement fund, you need to use ALL of the intended dollars with the most tax-efficient vehicle.

If you choose the most tax-efficient retirement savings vehicle but unintentionally put only a fraction of the intended fuel in it, you might not get as far as if you used all of your fuel in a less-efficient, unregistered investment vehicle.

Gross up to invest all intended dollars

Tom's $1,000 that he has to invest on an after-tax basis equates to a larger amount on a before-tax basis inside an RRSP. The equivalent larger amount in an RRSP is calculated by dividing the after-tax amount by one minus the tax rate. We can refer to this equivalent RRSP amount as the "grossed-up" amount. Thus,

Grossed-up RRSP amount = After-tax amount ÷ (1 - Tax rate)

In a 50% tax bracket, $1,000 can be "grossed up" to an RRSP contribution of $2,000, as shown below.

Grossed-up RRSP contribution	$2,000
- 50% tax refund	- $1,000

Net Cost	$1,000

We are simply working backwards to determine how much money inside an RRSP equates to the after-tax amount that we have to invest. Assuming that he has prepaid sufficient income taxes so that an RRSP contribution produces a tax refund, if Tom contributed $2,000 to his RRSP, he would get a $1,000 tax refund ($2,000 x 50% tax rate), leaving a net, after-tax cost of $1,000.

Since Tom is actually in a tax bracket of about 40%, grossing up his contributions to get all of his intended dollars invested towards his retirement will increase his RRSP by about 67%, a significant improvement.

To invest all dollars intended for retirement and **increase your RRSP savings by 28-85%, make grossed-up contributions** to your RRSP.

Grossing up RRSP contributions is a more effective RRSP refund strategy than spending the refund or even reinvesting the refund back into RRSPs. Only by using a gross-up contribution strategy do you invest all of the after-tax dollars that you start with. The other RRSP refund strategy that can be even more effective than grossing up is a catch-up loan strategy.

How to gross up RRSP contributions

The easiest way for Tom to gross up his contributions and invest all of his intended cashflow is to "pay himself first" and contribute the appropriate grossed-up amount every month using pre-authorized withdrawals from his chequing account. This reduces the risk of spending money sitting visible in his account. He would then have his employer adjust his withholding taxes to get his tax refund working for him immediately instead of being spent. To do this, he would file a "Request to reduce tax deductions at source" form, available at http://www.cra-arc.gc.ca/E/pbg/tf/t1213/t1213-04e.pdf.

Example: Let's assume that Tom's income puts him in a 40% tax bracket. If Tom wanted to invest all of his available $2,000 a year, he would calculate the grossed-up RRSP amount as follows:

Grossed-up RRSP amount = After-tax amount ÷ (1 - Tax rate)

Thus, for Tom, the grossed-up RRSP amount = $2,000 ÷ (1 - 0.4) = $2,000 ÷ 0.6 = $3,333 per year, or about $278 per month.

Invest cashflow produced by reduced clawbacks

With children under 18, the Smiths are entitled to receive a Canada Child Tax Benefit (CCTB). Like many other government support programs, the CCTB payout is reduced or "clawed back" as the couple's taxable income rises. This means that **clawbacks are effectively a "hidden tax"** that reduce the total amount that you get to keep.

By making RRSP contributions, Tom reduces his taxable income, saving both taxes and increasing the amount of CCTB received. This additional cashflow is an unexpected bonus that can also be grossed up to increase their retirement savings.

Analysis

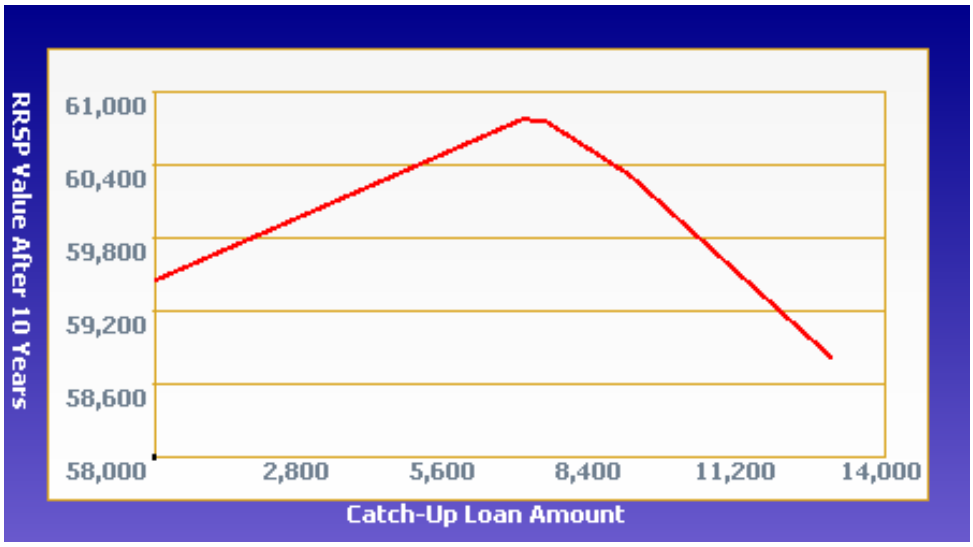
To define the Smith's optimal RRSP contribution strategy, we need to crunch some numbers to find out what amount of RRSP catch-up loan, if any, maximizes the value of their RRSP for their unique situation. In other words, we want to calculate what is the optimal portion of their investable cashflow to be used for a forced savings approach to pay off a catch-up loan, and what portion should be used for an automatic savings approach with grossed-up monthly contributions.

Projection assumptions. The Smiths are moderately conservative investors and expect to average annual RRSP returns of 7% over a 10-year evaluation period. Long-term interest rates on RRSP loans are expected to average 6%.

Optimal RRSP Contribution Strategy. Determining the best RRSP catch-up loan amount is the cornerstone in defining the optimal RRSP contribution strategy, accounting for all relevant factors, including behavioural risks.

The chart below shows RRSP values after 10 years for all possible RRSP catch-up loan amounts, using 2004 tax and clawback data for Ontario. For Tom, the optimal catch-up loan amount is $7,054. Note that in Tom's case, taking a catch-up loan of $7,054 is better than not borrowing at all to catch up, and better than catching up the full $25,000 this year.

Optimal RRSP Catch-up Loan Amount



Benefits of Optimal Strategy. Tom's optimal RRSP contribution strategy is projected to grow to $60,788 after 10 years, compared to $31,567 for the current plan where all of the investable cashflow and 0% of RRSP refunds is contributed annually. This is an increase of 93% and $29,221.

Defining the Action Plan

Tom and Anne understand that designing an improved contribution strategy that they don't follow through on won't benefit them. There are behavioural risks and other factors to consider that could cause the Smiths to define an Action Plan that is different from the optimal plan.

The optimal RRSP contribution strategy is a theoretical best that assumes investors are not vulnerable to behavioural risks, and have perfect 100% discipline so that all of the cashflow not used for loan payments is grossed up.

Behavioural Risk. Since the Smiths have skipped making RRSP contributions some years and have always spent their RRSP refunds, they are not confident that they will be 100% disciplined and invest all of the dollars that remain after making the catch-up loan payments. To achieve their goal of enjoying a comfortable retirement, the Smiths know they must find a more realistic contribution strategy that is less dependent on perfect discipline.

Tom and Anne reflect on the fact that, while there have been a few lean times, they have never missed a loan payment on a vehicle or their mortgage. Thus, as for most investors, the **weak link** in the Smith's optimal contribution strategy is the **automatic savings portion** of the plan that **requires a high level of discipline** to gross up all of their remaining cashflow that is not used for paying off the catch-up loan.

On the Define Action Plan page, we see that the optimal plan uses 52% of Tom's investable cashflow for an automatic savings approach that requires more ongoing discipline. If they choose a larger-than-optimal catch-up loan amount, a smaller portion of their cashflow will be left for automatic savings, and the behavioural risks will be reduced.

With a secure income, Tom likes the forced discipline of making manageable loan payments to reduce the risk that their savings strategy is reduced or suspended. Anne agrees, but does not want to lose the flexibility to use some of their investable cashflow for other needs, should the situation arise.

Action Plan Decision. The Smiths decide to increase the catch-up loan amount to $10,000 to increase the forced savings portion of their contribution strategy. This reduces the behavioural risk of their plan to 32%, since now only 32% of their investable cashflow will be used for grossed-up monthly contributions.

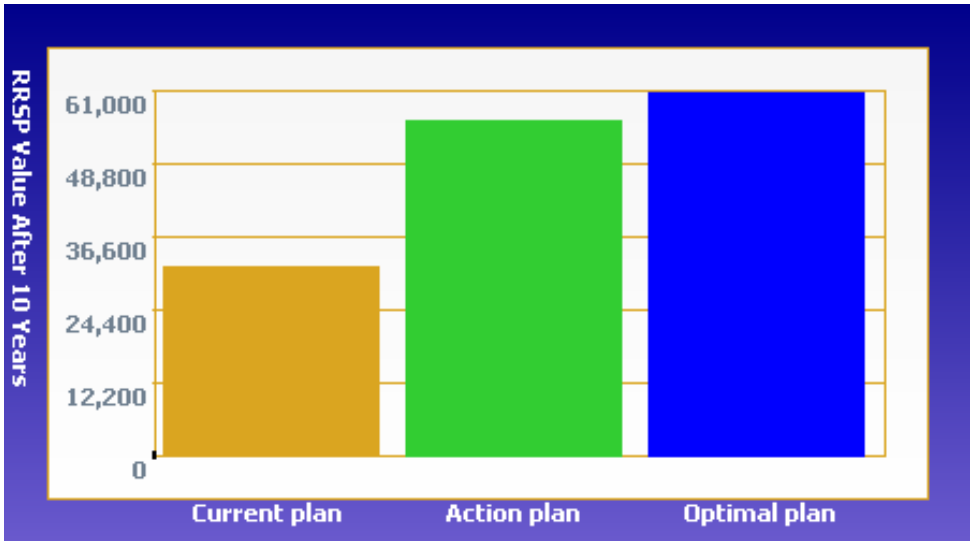
They hope to be disciplined and gross up 100% of their remaining cashflow with automatic monthly contributions, but to be more conservative in their projections, they use a more realistic "Discipline Level" parameter of 80%. While this Action Plan is not the optimal strategy on paper, it is the right balance between forced and automatic savings to give the Smiths a high degree of confidence in their savings plan, while maintaining some flexibility.

They explore projections with different discipline levels and discover that by committing to a $10,000 catch-up loan, even if their discipline is only 50% and they end up investing half of their remaining cashflow, their Action Plan is still almost 60% better than their current "ad hoc" approach of contributing $2,000 a year and spending the refunds. If the Smiths execute their plan with perfect 100% discipline, they will end up with 90% more than with their current approach.

Projected Benefits

Choosing a $10,000 RRSP catch-up loan with a discipline level of 80% (indicating that 80% of their remaining investable cashflow is grossed up), Tom's RRSP is projected to grow to $55,870 after 10 years. This is **77% and $24,303 better than their current plan**, and 9% and $4,918 less than the optimal plan.

Action Plan vs. Current and Optimal Plans



Implementation Details

To implement their Action Plan, Tom **temporarily borrows $18,559**, which combined with the $2,000 of cash available, makes a **total contribution this year of $20,559**, taking advantage of most of his unused RRSP contribution room. This should generate a 41.6% tax refund of $8,559, which is quickly used to pay down the loan, leaving a **long-term catch-up loan of $10,000**.

$1,359 a year of their long-term investable cashflow is used to pay off the loan over 10 years. 80% of the remaining investable cashflow of $641 per year plus the extra cash from reduced clawbacks is grossed up for annual RRSP contributions averaging about $1,078.

To implement the gross-up portion of his plan, Tom increases or grosses up his remaining cashflow averaging about $64 a month to monthly RRSP contributions of $90. To achieve this with the same after-tax cashflow and get his tax refunds working for him instantly, he gets his employer to reduce his withholding taxes by submitting a "Request to reduce tax deductions at source" form.

Next Steps

After implementing their Action Plan, there are a number of next steps that the Smiths should address.

Tom should **continue to optimize his RRSP contribution strategy annually**, especially since he did not completely catch up on all of his RRSP contribution room.

They could optimize Anne's RRSP contribution strategy, evaluating whether it makes sense to contribute to her RRSP now and defer claiming the tax deductions until she returns to the workforce and has a taxable income.

Tom and Anne should carefully **evaluate** if Tom's contributions should be in his name or a **spousal RRSP** to try to split income with Anne during retirement.

This and other issues can be properly addressed by sitting down with their trusted financial advisor and **creating a written financial plan** to define how they can take advantage of every opportunity to help them achieve all of their financial goals.

Finally, after reflecting on the benefits of having an optimized RRSP contribution strategy customized for their unique situation, Tom and Anne realize that they know others who could also benefit from such professional advice. They decide to ***"Help a Friend"***™ and tell some friends at work how they can get an optimized RRSP contribution strategy.