Business Matters

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FINANCE

Your Future Is Now

Repaying your student loan will delay saving for retirement.

It has always been difficult getting started in life: education is expensive, renting that first apartment eats a big hole in the early paycheques, food, entertainment, clothing, dating are all expensive. Now young people have an even tougher time as governments struggle to raise taxes to pay down deficits and the private sector struggles to grow and create jobs.

Under today's economic conditions, people in their twenties and early thirties have an especially difficult time getting ahead financially. This age group has been unable to generate discretionary income while simultaneously being hit with repaying education loans, delays in starting their careers because of the need for more education, and high

accommodation costs once they do start working. This makes it very difficult to save money for a down payment to purchase a first home; saving for

retirement is often deferred indefinitely. The inability to begin saving for retirement in the early years will have far-reaching repercussions in the future for this generation.

The Consequences of Delayed Savings

It is no secret that the earlier you begin to save, the more you will benefit from compounding and capital gains. So, when saving for retirement is postponed for as much as a decade while you repay student loans, the financial consequences at retirement can be huge.

To quantify the impact of carrying student loans for the first 10 years of a working life, a case example follows using averages of earnings and student loan amounts. This hypothetical example, highlights the fact that there is a ripple effect in repaying student loans that reaches from the very beginning of a person's working life into retirement. The burden of that student loan is felt not only at age 25, but is still being felt at age 65.

Case Example

The *2013 BMO Student Survey* shows that about 55% of students rely on debt to finance their post-secondary education. This case example is only about the 55% with student debt, who, according to the *Survey*, have an average amount of $26,300 outstanding at graduation. This case example shows a 25-year-old recent graduate earning $47,942, which is the average income per person as per Statistics Canada at the end of 2014.

The Ontario Ministry of Training, Colleges and Universities says the average repayment period is 9.5 years (114 months), and the current interest rate on provincial student loans is prime (currently 2.85%) plus 1%. This case example is based on repayment amortized over 9.5 years at the current rate of 3.85%.

Using these averages as a starting point, the following assumptions about a 25 year old beginning a career are presented (all other assumptions are modest general Canadian averages):

Average gross income (before withholding taxes of $10,834)	$47,942
Estimated Expenses	Annual
One-bedroom apartment ($1,000/month)	$12,000
Utilities: heat, hydro, phone, etc. ($250/month)	3,000
Food ($450/month)	5,400
Clothing, grooming, entertainment ($200/month)	2,400
Transportation (a $24,000 vehicle financed at 1% for five years)	4,923
Fuel, repairs, maintenance, insurance ($500/month)	5,000
Student loan repayment ($26,300 repaid over 9.5 years at 3.85%) $276/month	3,310

Breakdown of Expenses

	Age 25	Age 35
Income	**$47,942**	**$47,942**
Withholding Taxes (including EI and CPI) 2014 Rates	10,834	10,834
Disposable Income	37,108	37,108
Basic Expenses — 1 Bedroom Apartment	12,000	12,000
Utilities	3,000	3,000
Food	5,400	5,400
Clothing, Grooming	2,400	2,400
Transportation Finance 24,000/60 months/1%	4,923	4,923
Fuel, Insurance, Repairs and Maintenance	5,000	5,000
Debt Repayment Student Loan 26,300/114 months/3.85%	3,310	—
Total Cash Out	**36,033**	**32,723**
Discretionary Income	**1,075**	**4,385**

Disclaimer: The numbers used are averages and are for illustrative purposes only. There are a number of different ways of calculating so results may vary.

As the chart demonstrates, assuming basic day-to-day living costs are met until the student loan is repaid, only $1,075 can be saved per year between ages 25 and

35. If this is invested at $90 per month at 5% in an RRSP (i.e., without attracting tax) the person will have accumulated $13,975 by age 35.

After the debt has been paid off, assume the individual is able to add to the base of $13,975 already invested the $4,385 at a rate of $365/month at 5%. The total savings accumulated over the following 30 years (to age 65) would be $362,396. Using the same assumptions but applying them to someone who entered the work force 10 years earlier with no education debt, the savings would approximate $556,997.

Certainly one surmises that earnings will increase as one gains experience. However, such gains are often offset by inflation and taxes. What the data illustrates is the impact of delayed savings on a work force that cannot get started until their mid-30s versus those who start in their mid-20s. Further, it demonstrates the economic impact that will be felt in retirement years when the late-starter will have approximately $194,601 ($556,997 - $362,396) less of a retirement nest egg.

Repayment of student loans defers savings.

Strategies for Late Starters

A young person who faces the prospect of not being able to start serious saving until their 30s should consider the following strategies:

- Minimize education loans by working (part-time) while still at school.
- Seek work at organizations that may hire you when you graduate at a salary higher than would be offered if you were an entry-level applicant.
- Keep living expenses below income.
- Calculate how much you need to save for a reasonable retirement income. Use an amortization chart to get an idea of how much you need to save to reach your goal. Whenever possible, invest monthly to increase the earnings income.
- Seek tax advice from a CPA regarding the options available to reach those goals and the tax consequences of each approach.
- Do not borrow from your savings. Any infringement on capital will dramatically impact your retirement.

Enjoy Today But Not at the Expense of Your Future

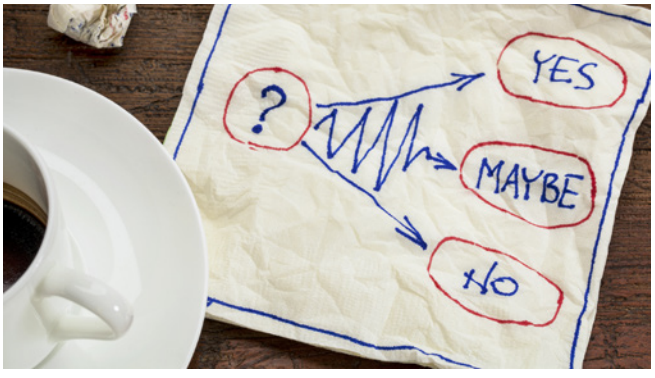
It is impossible to determine future earnings, expenses and taxes with any certainty let alone what may happen with the future path of any individual's life. Nevertheless, by working with actual numbers you can plan and revise using the information available to project your future financial prospects. Knowledge is power and with this power you can adjust your current lifestyle and reshape your financial future.

MONEYSAVER

To Lease or Not to Lease

Buy/lease decisions are much more than a matter of taxes.

Buy or lease? That is the question that arises whenever a business needs a new asset. The question usually elicits a follow-up comment that a 100% write-off of the lease expense is available, whereas a purchased asset can only write off the capital cost allowance. The conclusion of the discussion is that there is a tax advantage to leasing.



Advantages of Leasing

1. Your business gets the full use of the asset while the cost is spread over a number of years (i.e., there is no immediate drain on cash flow). This may be important if the business has limited lines of credit, limited cash reserves or is cyclical and the asset is required immediately.

2. The lower cash outlay may allow the business to acquire better equipment with only a marginal increase in cash outlay, whereas a significant additional capital outlay would be required to purchase the asset.

3. Businesses normally establish cash flow and budgets based on operating revenue and expenses and often ignore the need to budget for capital asset acquisitions. Because the lease expense is a regular monthly withdrawal, budgeting for future expenditures may be easier than predicting the impact on cash flow and profit and loss of a major capital purchase.

4. Depending on the product and the leasing company, you may find it easier to cancel the existing lease and renegotiate a lease on a newer, better piece of equipment with payments that are not much different from those of the existing lease. If technology in your business is changing rapidly, leasing may be advantageous.

5. Leasing from the same company that manufactures the asset may be beneficial if the asset turns out to be a lemon. Because the manufacturer wants to retain the customer, it may be more willing to provide a replacement.

The lessor continues to control the asset through the leasing contract.

Disadvantages of Leasing

The lessor continues to control the asset through the leasing contract. This may have the following disadvantages:

1. Payments may continue longer than the usefulness of the asset.

2. If the lessor is financing the asset, it may not be possible to upgrade the equipment until the lease is paid in full or a buyout has been negotiated.

3. Businesses in possession of the asset after the lease period must continue payments even though the lease has been fully paid.

4. Lessees are responsible for maintaining the equipment unless maintenance is covered or a separate charge is paid. In fact, you may be required to follow a predetermined maintenance schedule. If the equipment is not maintained, the lessor may charge your company for restoring the asset to its original condition.

5. An operating lease (i.e., the term of the lease is shorter than the useful life of the asset) is an "off balance sheet" form of financing because only the rental expense is recorded on the income statement. Nevertheless, the lease creates a legal obligation even though nothing shows up on the balance sheet. Management may be unaware of this legal obligation for this kind of indebtedness. This situation can be mitigated by treating the lease as a capital lease and recording the value of the leased asset on the balance sheet and showing a corresponding liability. In some instances the contractual obligation is shown within the notes to the financial statements.

Tax Considerations

Normally, when an asset is leased, the cost of the lease is immediately expensed and the income is reduced by the lease amount. If, for instance, the lease cost is $1,000 per annum and the corporate tax rate is 17%, the income tax expense will be reduced by $170. The GST/HST input tax credit (ITC) is calculated each month based on the monthly lease amount.

When an asset is purchased, the cost of the asset is capitalized and, for purposes of the Canada Revenue Agency, the capital cost allowance (CCA) is applied to

the cost of the asset and the amount is deducted for income tax purposes. The CCA amount is calculated using a percentage (such as 20%) of the cost of the asset. In the first year of purchase the CCA is usually limited to one-half of the CCA calculated on the purchase price. Thus, if an asset cost $1,000, the first year CCA would calculate as 20% of $1,000 equals $200 divided by 2 or $100. In the ensuing years, full CCA is calculated on the original asset cost less the accumulated capital cost allowance. ($1,000 less $100 or $900 times 20% or $180) until the asset is effectively amortized.

From a tax viewpoint, the first-year deduction for the CCA equivalent is $100. A first-year tax benefit approximates $17 assuming (17% of $100); whereas in the second year, the tax benefit approximates $31 (17% of 20% of $900). If the asset is purchased, the ITC on the original cost is calculated on the initial purchase cost and applied against the GST/HST payable. Further, if the capital asset is financed, the interest on the loan is a deduction from income.

More Than Just Taxes

Making a decision as to whether to lease or buy an asset should take into consideration more than just the tax implications. Cash flow, maintenance, financing ability, obsolescence, long-term capital asset needs combined with the impact on the financial statement should all be factors when discussing the pros and cons with your CPA.

TAXATION

Apprentice Job Creation Tax Credit

Receive an investment tax credit by hiring apprentices to replace your retiring workers.

The potential retirement of the Baby Boomers is creating a gap in many trades that will have to be filled by inexperienced trainees. Companies whose success depends on the employment of highly skilled workers should be looking at their growth strategy and the possibility of their more experienced employees retiring, to make sure they are not left with unfilled key jobs. New employees need to be brought in as soon as possible and trained alongside the more experienced workers to ensure a continuous flow of qualified workers.

The first step toward preparing for the future is to examine your long-term strategy. What should your business look like five or 10 years from now? How are your markets changing and what skills will you need to meet demand? What is the demographic of your workforce? Who and how many of your workers are planning to retire in the next five years? What skills will they be taking with them? A careful job analysis should give you a good idea of the skills you will need to continue growing your business.

Red Seal Program

Once you have defined the problem, how do you go about planning to make new hires? A good place to start is the Red Seal Program. The Red Seal Program is managed by the Canadian Council of Directors of Apprenticeship, a voluntary partnership between the federal, provincial and territorial governments to develop a "certified, highly skilled and mobile trades workforce in Canada." The Red Seal Program's mission is to standardize skills teaching, testing and certification across Canada so that workers can move around and employers will know the standard of skill of job applicants from other parts of Canada. The Red Seal Program currently certifies in 57 trades.

Red Seal Website

An alphabetical list of trades is provided on the Red Seal website. (The website URL is listed at the end of this article.) The site also provides information about education and entrance requirements the apprentice may need to be accepted into the program. In addition, details regarding the total number of apprenticeship hours required is divided into learning components of theory and shop (i.e., hands-on) experience. The website also lists by province whether practical and/or written examinations are required.

This site is an invaluable source of information because it provides a realistic guideline concerning the commitment both employer and employee must make to the program. Employers can, before hiring someone, not only determine the cost associated with the process, but also explain to the potential apprentice employee the criteria required to enter into the program, the timelines from start to finish, skills that will be learned from the experience, the dedication and time that should be considered and the certificate they will earn at the end of the process.

Red Seal helps both individuals and businesses.

Since many individuals are often not fully aware of the requirements for the career path they wish to follow, such information should assist the potential employee to determine whether the Red Seal Program would be right for them. This process enables employers to eliminate potential employees who are not sufficiently motivated to pursue the career path that you, as an employer, have determined is necessary not only for the success of your business, but also for the career satisfaction of potential employees.

Job Creation Tax Credit

If your business is considering hiring an apprentice to learn one of the trades whose skills play an important part in your operations, ask your CPA about the Apprenticeship Job Creation Tax Credit (AJCTC). This non-refundable tax credit offers a tax credit of 10% of all salaries and wages paid to eligible apprentices. There is, however, a "cap" of $2,000 for each apprentice. To prevent "double dipping", rules are in place to ensure that if the same apprentice works for a related person (as defined under subsection 251(2) of the *Income Tax Act*), the $2,000 cap is allocated to only one employer.

To qualify for the tax credit, your tax advisor will need to complete either Schedule 31 "Investment Tax Credit-Corporations" or Form T2038 (IND) "Investment Tax Credit-Individuals". The information includes:

- apprentice contract number registered with CRA or the province or territory. (It is beneficial to provide the Social Insurance Number (SIN) and the individual's name in the event a contract number is not available.)
- name of the eligible trade as specified under the Red Seal Program.
- salary and wages paid to each apprentice.
- eligible salary and wage multiplied by 10% to determine the amount of the credit.

An "eligible apprentice" is someone who is working in a prescribed trade in the first two years of their apprenticeship contract. This contract must be registered with a federal, provincial or territorial government under an apprenticeship program designed to certify or license individuals in the trade. For the provinces, the trade must be a Red Seal trade.

It should be noted that British Columbia, Manitoba and Ontario also offer their own (provincial) apprenticeship tax credits.

Benefits of Red Seal

Employers should be encouraged by the prospect of hiring apprentices under the Red Seal Program because it not only provides a career path outline but also affords current tax savings for businesses that will require a fresh work force in the not so distant future.

Red Seal Program website:
www.red-seal.ca/w.2lc.4m.2@-eng.jsp

TECHNOLOGY

Auto Hacking

The Internet of Things is vulnerable. In theory, even your car could get hacked.

In our society, Internet-enabled computers are literally everywhere. From a security perspective (and also generally), traditional computers like desktops and laptops have a mature software ecosystem; antivirus suites are not just widely available, a majority of computers have one that is up to date. Anti-malware apps are even available for the major mobile phone platforms; if you don't already have an antivirus for your mobile phone or tablet, get one.

What about other kinds of devices, i.e., the ones we tend not to think about? The Internet of Things (IoT), is a very broad category of Internet-enabled devices that tend to operate autonomously, ranging from home security systems, smart hydro meters and smart thermostats, to parking meters, cars and beyond. Yes, your car could, theoretically, be hacked.

Attack Surfaces

The concern of many researchers is that access to an IoT device may be compromised because of easy entry via "attack surfaces", which is basically any method that could be used to communicate with the embedded computer. A complex device (e.g., a car) has many interfaces via electronic conveniences such as Bluetooth, Wi-Fi, cellular network, keyless entry systems and even tire pressure monitoring systems. It may then be possible to gain access through the backdoor, so to speak, into the vehicle's computers.

Indeed, at a Black Hat security conference in Las Vegas in 2014, two professional hackers, Charlie Miller and Chris Valasek, presented a 92-page paper that documented their review of 24 makes and models of vehicles and ranked their theoretical hackability. In addition to attack surfaces, the researchers examined the vehicles' internal network architecture (i.e., which components are able to directly communicate with each other) and 'cyberphysical' features (e.g., assisted

parking and automated braking) a nefarious hacker could manipulate to create a potentially dangerous situation. Although none of the vehicles was actually hacked, the researchers demonstrated that not all cars are designed with network security in mind. It was discovered that the most vulnerable models were susceptible because they had wireless "attack surfaces" that were not insulated from the car's network.

Not only cars are susceptible: a 2014 study found that Internet of Things devices have on average 25 vulnerabilities each!

As a result of ongoing research and some news headlines, manufacturers are becoming aware of the potential for hackers to gain unauthorized access to these devices. News items question whether businesses should be concerned about cyber attacks on their vehicles or equipment. Pragmatically, the answer would be "no" simply because there is little financial incentive for anyone to hack into most of the vehicles or equipment business owners use; known exploits tend to be rather labourious and limited to one device at a time rather than many devices en masse. However, financial incentive is not always the motivation. Recent news snippets have demonstrated revenge and challenge can be motivators.

In Texas, a disgruntled ex-employee of a web-based immobilization system disabled some vehicles and left others with their horns honking continuously. In other

controlled research situations, tire pressure monitoring systems were hacked and turned on warning lights and windshield wipers, while braking systems were disabled and engines stopped.

Can Your Vehicles Be Hacked?

For the time being most researchers agree it is unlikely that businesses and consumers need to be concerned about vehicles being hacked and running amok. At the same time, however, they are urging vehicle owners to take a few precautions to safeguard against electronic mischief. A few suggestions include:

- Ensure that passwords to an auto security and information service such as OnStar are not left in the vehicle.
- Minimize the possibility of manipulation of your vehicle's computer system by using only a reputable shop for your vehicle's repairs.
- Don't be talked into installing aftermarket devices that may be able to track your movement or allow backdoor access to the vehicle's driving functions thereby leaving you vulnerable to an outside party.
- Always lock your vehicle to prevent tampering.

Recommendations

Whether your business is already using Internet of Things devices, or is considering IoT, experts recommend:

- Separate the IoT devices from the other devices on your network by using a firewall.
- Consider security features when evaluating potential IoT products.
- Configure security features like strong password requirements and two-factor authentication.
- Regularly update the firmware/software on all devices, if available.

The Future

The explosion of growth of the Internet of Things and the evolution of connectivity between humans and devices mean that devices will become more prevalent and potentially vulnerable to cyber attack. It may take some time for the IoT industry to catch up with the security standards and processes that have developed since personal computers "hooked-up" to the Internet. Unlike laptops or mobile phones, there is currently no antivirus available for your car or thermostat. Most security recommendations for IoT devices are similar to the best practices we already follow today for computers and physical infrastructure.

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