Brown's Economic Damages Newsletter

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Age-earnings profiles: occupation-or individual-specific "real" growth

In this newsletter issue, we discuss the calculation of "real" wage growth for the plaintiff that is in addition to wage inflation and "productivity" wage growth. First, however, we provide some commentary on the importance of using reasonable assumptions in income loss calculations, and that the court will not always accept that events that are temporal in relation to an incident are *caused* by that specific incident.

A recent case decided in Alberta accepted the evidence of Cara Brown regarding the loss suffered due to a 6-month delay in education. Ms. Brown's evidence for the defense was accepted in lieu of the plaintiff's expert evidence.

> ***Brodie v. Canada (Attorney General),*** **2010 ABQB 678:** injury cases involving two Australian men who were attacked by a grizzly bear at a campsite in Lake Louise, Alberta in 1995. Justice Hawco found that the warnings given by the park wardens were appropriate, steps taken were reasonable in the circumstances (including posted signs, warnings to each camper, increased patrols) and the attack was not "foreseeable from the perspective of a reasonable person at the time of the activity in question." (para. [55]). In assessing damages, Hawco J. stated the following:
>
> > [59]　　Mr. Hereford's damages for loss of income have been considered by both [the plaintiff's expert] on behalf of Mr. Hereford and Ms. Cara Brown on behalf of the Defendant. [The plaintiff's expert] assumed in his calculations that Mr. Hereford was delayed entry into his chosen profession by six months as a result of the injuries sustained. He calculated that Mr. Hereford was adversely impacted by that six month delay throughout his career. To the date of trial, assuming every year Mr. Herefor4d would be six months late in advancing up the corporate ladder, [the plaintiff's expert] calculated that his loss would have amounted to $1,035,727, inclusive of pre-judgment interest.

[60]   Ms. Brown gave evidence to the effect that she took into account that Mr. Hereford would have been behind his peers for a certain period of time, but that by year 2001 he would have caught up to them. **Her calculation of his losses up to the time he moved to the United Kingdom in 2001 were set at $87,500.** (emphasis added)

[61]   In my view, the lock-step loss calculations of [the plaintiff's expert] do not appear to take into consideration a number of contingencies and, more importantly, do not take into consideration that after a certain number of years, a six-month delay would mean very little, if any, upon his then ability to improve his employment opportunities. Mr. Hereford was obviously an ambitious and successful young man and rose rapidly within his chosen profession. I am not at all satisfied that he would have sustained any losses beyond the year 2001. **I accept Ms. Brown's calculation and analysis in that regard.** (emphasis added)

[62]   In conclusion, I find that there was no breach of duty by the Defendant to the Plaintiffs and that the Plaintiffs' claim must therefore be dismissed, with costs.

In the case of *Brodie v. Canada,* Justice Hawco appeared to accept that the short delay (6 months) in the plaintiff's education path could only have effected his income profile for a total of 6 years after the incident in 1995, especially given two job changes and relocation to a different country (Australia to the UK), as there was no longer any link between the initial delay in education and the plaintiff's income level.

The loss calculation due to a delay in education or in entering the labour market will depend heavily on the particular career the individual pursues; and if that plaintiff's income changes in, as Justice Hawco describes, "lockstep" with his or her years of work experience. Concrete examples of a "lockstep" pattern can be found in unionized agreements showing salaries by "steps" (in the case of nurses) or years of, say, teaching experience. In these cases, it is much easier to identify and quantify the potential income loss arising from a delay (if it occurred).

Notwithstanding a "lockstep" income progression, the plaintiff will still likely have to demonstrate that s/he would *not* have delayed his or her education for any other reason (besides the incident in question).[1] Any job changes or changes to one's field of interest will complicate this type of analysis considerably, so much so in some cases that a temporal link cannot be established or sustained. In *Brodie,* the career pursued by Mr. Hereford (that of a financial investment advisor) can be pursued in so many different industries and different companies, not to mention the plethora of various certifications that can be acquired in this industry, that it is difficult to link an initial delay to an eventual outcome.

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[1] For instance, many undergraduate students are taking 5 years, or more, to complete a 4-year undergraduate degree. For a plaintiff to show that an incident prolonged his or her attendance at school, s/he would have to prove that either s/he will take 6 years (or longer) to finish an undergraduate degree or that s/he would have finished it in 4 years. Medical or vocational evidence may be required to support this argument.

To read excerpts of other cases in which Brown Economic's experts have testified, please visit:

www.browneconomic.com > Products & Services > BEC Court Testimony

…and click on the case citation listed in the left-hand menu.

Another case in which the judge did **not** accept that certain events that occurred after an incident were caused by the incident is *McLaren v. McLaren Estate.*[2] In this judgment, Justice Sisson concluded that the incident in question (the death of the plaintiff's daughter and the plaintiff's subsequent physical injuries and PTSD) was <u>not</u> responsible for the plaintiff's failure to obtain her CGA designation nor was it responsible for her decision to leave salaried employment and establish her own bookkeeping business. (para. [215]) Counsel for the plaintiff (and the plaintiff) had asked Brown Economic to make these two key assumptions in our income loss analysis. While it was not "fatal" that the court did not accept these assumptions – Justice Sisson still found that the accident caused Ms. McLaren's post-incident symptoms and that she could only work part-time, thus suffering a –20% loss of earning capacity (paras. [245],[3] [307], [308], [309]), it rendered the two reports we had done prior to trial to suffer from "deficiencies" that the court noticed and commented upon (para. [244]).

On the other hand, counsel for the defendant appeared to ask the defense expert to assume that Ms. McLaren's future earning capacity would be unaffected by the incident in question, and thus she would not suffer a future loss of income; and the defense expert assumed that *after* the incident, Ms. McLaren could earn more than 3 times what she did earn *before* the incident.[4] Justice Sisson commented on these assumptions:

> [246]   Turning to [the defense expert], none of his alternatives indicate the plaintiff will have a future loss of income due to the motor vehicle collision.
>
> [247]   This is not possible given the evidence of the medical experts and the real disabilities the plaintiff suffers and will continue to suffer.
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> …
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> [249]   I agree with the plaintiff that the use of the plaintiff's 2007 employment and self-employment income as the post-accident mitigating income potential is a serious flaw in [the defense expert's] analysis…
>
> [250]   …Consequently, it is not appropriate to use the plaintiff's best year as the post-accident mitigating income potential.

The decision in *McLaren* is an example of how important it is for counsel to establish proof underlying the assumptions that counsel asks the expert to make. There is simply nothing to be gained by asking the expert – on either the plaintiff or defense side – to make assumptions that cannot be proven. Indeed, it not only imperils the expert's credibility, it

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[2] 2010 ABQB 471.
[3] Justice Sisson noted in para. [245] that "Ms. Brown correctly assumes the plaintiff's ability to work will be reduced in future due to her injuries."
[4] In the defense expert's report, one of his scenarios contrasted a potential <u>without</u>-incident income of $39,773 to a <u>with</u>-incident income $133,765; in other words, with the *advent of the incident,* this expert was assuming that Ms. McLaren could now earn more than three times than what she would have earned in the absence of the incident. This expert failed to realize that if Ms. McLaren could earn more (in 2007) *after* the incident than she had earned *before* the incident in 2004, then presumably she *would have earned* what she *did* actually earn in 2007.

weakens counsel's expert evidence at trial. We can see from many court decisions that even though counsel has asked the expert to make assumptions that they later claim *they* will prove – it is often the expert who is blamed for making an assumption that is not proven. While of course the economic expert has no expertise to comment on counsel's arguments as to liability, or to evaluate the medical or vocational opinions, it is still tenuous to ask experts to assume that every negative event that occurs following the incident is necessarily temporally related to or caused by the incident in question.

On the other hand, there is one set of key assumptions that you need to depend on your expert to include: the "real" growth (if any) of the plaintiff's income profile as she or he ages. Age is acting as a proxy for years of work experience gained in the labour market.

Below, we discuss the "age-earnings profiles" that economic experts commonly employ to extrapolate a plaintiff's income over time until retirement age. Note that this income profile is specific to the individual and the individual's occupation and is **in addition to** increases in earnings from 'wage inflation' (cost-of-living) and 'productivity' (industry-wide increases over and above wage inflation).[5] This means there are three sources of wage growth for every quantum expert to project: wage inflation;[6] productivity;[7] and occupation-specific or individual-specific "real" wage growth.[8]

What are "age-earnings profiles"?

The age-earnings profile is commonly used to "describe the growth of earnings over the life cycle."[9] The main source of data for age-earnings profiles in Canada is the Census, ideally from the 2001 or 2006 Census years.[10] However, there are other sources of data that can predict "peak" earnings: industry association salary surveys;[11] management

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[5] Productivity does not vary with the individual characteristics of a worker. Rather, productivity refers to gains or losses in the efficiency of a specific industry due to influences like improved technology, worker training and/or education in that industry. Dickson J. (as he then was) wrote for the court in *Lewis v. Todd:* "Productivity was not raised as a factor in the 'trilogy' but I consider it an appropriate component of a damage award in a proper case. There was evidence to support the 2% figure selected by the trial judge."

[6] The wage inflation assumption is typically embedded in the real discount rate assumption, "since neither inflation nor interest rates affect the real value of what the plaintiff would have earned had there been no injuries, they can be considered together for computational purposes" in the discount rate. (Source: K. Cooper-Stephenson, *Personal Injury Damages in Canada,* 2nd edition (Toronto: Carswell), 1996, p. 396). In other words, it has offsetting effects on wage growth and interest rates so they "cancel" each other out in the formula for discounting. Since Canada adopted inflation targets in 1991, total CPI inflation has averaged very close to 2 per cent, and the variability of inflation has been significantly lower than was the case in the 15 years before inflation targeting. Success in reducing inflation, coupled with an explicit commitment to keep inflation low, stable, and predictable through time, has helped to anchor inflation expectations to the 2 per cent target. On November 23, 2006, the Government of Canada and the Bank of Canada released an announcement that the inflation-control target has been renewed for a period of five years to the end of 2011. Under the agreement, the Bank will continue to conduct monetary policy aimed at keeping inflation, as measured by the consumer price index (CPI), at 2 per cent, with a control rate of 1 to 3 per cent around this target. (Source: Bank of Canada, *Renewal of the Inflation-Control Target Background Information – November 2006* (Ottawa, Ontario: Bank of Canada), 2006).

[7] Our industry-specific productivity rate has been accepted in *Millott Estate v. Reinhard* [2002] 2 W.W.R. 678, 19 M.V.R. (4th) 219 (Q.B.) (the author testified on behalf of the defendants in this matter using a 0.75% rate for the accommodation and food services sector); and *Palmquist v. Ziegler* [2010] ABQB 337, para. [236] (the author testified for the plaintiff estate in this matter using a 1.25% rate for the metal fabrication sector). For a list of productivity forecasts by industry sector, see C.L. Brown, *Damages: Estimating Pecuniary Loss,* loose-leaf (Aurora, Ontario: Canada Law Book), 2010, Table 3-8, p. 3-33.

[8] For a detailed discussion on the sources to use for wage inflation (or deflation) and productivity in the pre-trial period (when such changes are *known,* since they can be derived from published data by industry sector), see **Brown's Economic Damages Newsletter,** *Wage inflation data: CPI versus SEPH,* April 2009, vol. 6, issue #3. To obtain a back issue of our monthly newsletter, email us at **newsletter@browneconomic.com** and request the issue by date or volume/number. To see a list of topics from the past 10 years, visit **www.browneconomic.com** > **Research & Publications** > *Economic Damages Newsletter,* click on "Newsletter index" on the left-hand menu.

[9] Luong, M. and B. Hebert, "Age and earnings", *Perspectives in Labour and Income* [Statistics Canada: Spring 2009], p. 19.

[10] The actual dollar figures from the Census data are not used, so it is not critical that the data be very recent (i.e., the prior year). It is the *change* in earnings levels from age group to age group that forensic economists generate from the Census data.

[11] Two of the best surveys done by professional groups are the Chartered Accountants' salary surveys and the engineers' salary surveys (i.e., *Association of Professional Engineers, Geologists and Geophysicists of Alberta* – APEGGA). Both of these surveys collect information on the starting wage and the peak wage, by either years from when the CA designation was obtained, or through levels of defined responsibilities (in the APEGGA survey, these range from level A to level F+).

consulting surveys;[12] government wage sources that publish minimum, average and maximum earnings; and collective agreements which show the specific steps followed by a unionized worker as they gain initial years of experience (like nurses and teachers).

"Real" wage growth from age-earnings profiles can range from 0.5% per year to as high as 8.0% per year. These factors depend on the individual's age, gender,[13] education level, occupation, and sometimes, geography.

Limitations of Canadian cross-sectional data

The difficulty with all of these data sources noted above (other than the unionized data) is that they are cross-sectional: they take a "snapshot" of people at a given point in time rather than follow the *same cohort* (persons in the same age group) through time, which is known as longitudinal data. Statistics Canada has recognized some of these problems:[14]

> "…the traditional age-earnings profile has many problems, including the use and interpretation of cross
> -sectional data, selection problems, bias from voluntary changes in hours, and occupations of working
> retirees. This article addresses these problems in more detail and estimates a 'pure' age effect."

The problem to which Statistics Canada is alluding is that some Census data, when earnings for different age groups are compared, would suggest that earnings *decline* after peaking. However, most researchers have reached a consensus that this is a misleading finding, and is due to changes in hours worked[15] by those who remain in the workforce and to the earnings levels of those who exit the labour force.[16] It can also be due to the impact of business cycles on different cohorts through time.[17] For instance, authors Luong and Hebert note that:[18]

> "…conclusions based on cross-sectional data may be confounding differences between individuals at
> different points in their lives and differences within persons over time. Detailed longitudinal data and
> quantitative methods measuring within-person differences are required in order to determine whether
> individuals' earnings rise or fall over time."

Recent analysis using data from Statistics Canada's *Survey of Labour Income and Dynamics* ("SLID") has led the authors to conclude the following:[19]

> "The results show that hourly earnings increase with work experience, reaching a maximum for those
> with 25 to 29 years of experience and essentially plateauing after that."

[12] The benefit of management consulting surveys done by Towers Watson, Mercer or PSAC is that they report full-time salaries by job title, and often show salaries for junior and senior persons in the same job title. This can be used to predict salary progression within a group of job titles.
[13] See the discussion in Beaudry, P. and D.A. Green, *Canada in the 21st Century, III. Responding to the Challenges – Individual Responses to Changes in the Canadian Labour Market* (Ottawa: Industry Canada), 1998; S.F. Gohmann, M.J. McCrickard and F. Slesnick, "Age-Earnings Profiles Estimates: Do They Change Over Time?" *Journal of Forensic Economics* (1998), 11(3); and Y. Weiss, "The Determination of Life Cycle Earnings: A Survey" in O. Ashenfelter and R. Layard (eds.) *Handbook of Labor Economics,* vol. 1 (New York: North Holland), 1986.
[14] Luong, M. and B. Hebert, "Age and earnings", *Perspectives in Labour and Income* [Statistics Canada: Spring 2009], p. 19.
[15] This will be especially true with the Census data, since the Census defines "full-time, full-year" earners as anyone working 30 hours or more per week. This can lead to a lot of variation in annual incomes between cohorts, since "full-time" work can consist of 30 to 44 hours per week.
[16] For instance, Luong and Hebert also identify other biases in the age-specific data from the Census: it can include working retirees, who are working fewer hours at older ages, an effect that is intensified if these same retirees receive pension benefits. When Luong and Hebert plotted the age-earnings profile of **full-year, full-time** workers, excluding working retirees, only a very modest decline showed from age 50 to 60, and then an *increase* occurred after age 60 in the earnings curve (see Chart C).
[17] Beaudry, P. and D.A. Green, *Canada in the 21st Century, III. Responding to the Challenges – Individual Responses to Changes in the Canadian Labour Market* (Ottawa: Industry Canada), 1998.
[18] Luong, M. and B. Hebert, "Age and earnings", *Perspectives in Labour and Income* [Statistics Canada: Spring 2009], p. 20.
[19] Luong, M. and B. Hebert, "Age and earnings", *Perspectives in Labour and Income* [Statistics Canada: Spring 2009], p. 24.

Michal Myck's discussion paper for the *Institute for the Study of Labor* (IZA) notes that, "some closer analysis of the age-wage relationship showed very limited signs that wages fall with age."[20] He states that "cohort effects" (which are standard with cross-sectional data, like the Census surveys) result in misperceptions of the data. Additionally, in the British study,

> "…it is the better paid who leave employment earlier, which means that as time goes by the lower paid are more likely to stay in the sample of employees. **We showed that this effect is very strongly responsible for the downward part of the "inverse-U" shape.** When controlling for cohort effects and for selection out of employment **we find almost no evidence for the "inverse-U" shape** of the age-wage profiles."[21] (emphasis added)

Johnson and Neumark give many possibilities for the decline in earnings for older men as shown by statistics, including older workers changing jobs or reducing their hours as they near retirement.[22] They state that, "job changes at older ages entail movements out of jobs in which wages exceed marginal productivity."[23] Another potential reason for this is that health effects of older workers limit the amount they can work, and although their overall wages have declined, their hourly rate of pay has increased or remained the same. Additionally, "if income effects dominate retirement behavior, the higher-wage older workers may have a greater tendency to retire, generating a spurious cross-sectional decline in observed wages at older ages."[24] Finally, they conclude, "we find that a sizable fraction of these declines appears to be attributable to interactions with the Social Security system. In particular, workers appear to reduce their wages when they begin to receive benefits, in part by switching from full-time to part-time work."[25] British researcher Robinson explores the anomaly of a declining wage profile and concludes that it is due largely to misspecification of the earnings equation (i.e., using a quadratic rather than quartic variable). She comments that "So it would seem that the quadratic specification under-represents the growth in wages at the start of an individual's work career and over-represents the late career decline. That is, the magnitude of the decline at the end of work-life is merely an artifact of the specification imposed."[26]

Despite these problems, Census data is often the popular choice for forensic economists from which age-earnings profiles are derived. The important adjustment to make is to (a) not include wage declines after peak earnings are achieved; and (b) incorporate any possible changes in hours worked at later ages (if warranted) through negative contingencies, such as non-participation or part-time work. Otherwise, if the plaintiff is expected to have maintained salaried employment and/or remain in the same job title, there is no evidence-based reason to implement a declining wage profile before retirement.

[20] Myck, Michal *Wages and Ageing: Is There Evidence for the "Inverse-U" Profile?* IZA Discussion Paper Series no. 2983. (Bonn, Germany: Institute for the Study of Labor), 2007, p. 18. Forthcoming in the Oxford Bulletin of Economics and Statistics.
[21] Myck, Michal, *Wages and Ageing: Is There Evidence for the "Inverse-U" Profile?* IZA Discussion Paper Series no. 2983. (Bonn, Germany: Institute for the Study of Labor), 2007, p. 18. Forthcoming in the Oxford Bulletin of Economics and Statistics.
[22] Johnson, R. W. and D. Neumark, "Wage declines among older men." *The Review of Economics and Statistics.* 1996, Vol. 78, no. 4, p. 740-748.
[23] Johnson, R. W. and D. Neumark, "Wage declines among older men." *The Review of Economics and Statistics.* 1996, Vol. 78, no. 4, p. 745.
[24] Johnson, R. W. and D. Neumark, "Wage declines among older men." *The Review of Economics and Statistics.* 1996, Vol. 78, no. 4, p. 741.
[25] Johnson, R. W. and D. Neumark, "Wage declines among older men." *The Review of Economics and Statistics.* 1996, Vol. 78, no. 4, p. 747.
[26] Robinson, H. "Are you experienced? British evidence on age-earnings profiles" *Applied Economics,* 2003, 35, pp. 1101-1102.

Comment on decision in *Palmquist v. Ziegler*

There are many, many cases that have embedded 'real' occupation-specific or individual-specific wage growth for plaintiffs (in addition to wage inflation[27] and productivity), by accepting the age-earnings profiles used by the quantum experts in each case. This is appropriate, and in accordance with Waddams' *The Law of Damages,* wherein he states:[28]

> "The possibility of promotion should be taken into account." (p. 187)

> "The possibility of promotion should be taken into account, either, as in the *Andrews* case, by increasing the annual loss above the plaintiff's pre-accident salary or by including it as a favourable contingency. Further, *the real rate of growth in wages or productivity has been in the order of two per cent annually, and this the Supreme Court of Canada has affirmed should be included in the plaintiff's favour*…In view of the explicit policy of the Supreme Court of Canada to require full compensation for pecuniary loss, the burden of proof (which lies generally on the plaintiff) should not be made too difficult to discharge on this issue." (p. 197, emphasis added)

In *Palmquist v. Ziegler,*[29] however, Justice Read dismissed the notion that Mr. Palmquist would have benefited from promotions on the basis that the representative who testified at the trial (Mr. Hendrick) from the company Mr. Palmquist worked for, Almac, had been the last person promoted there, and it occurred 15 years ago (in 1995). The court also noted that "Mr. Hendrick's own position as plant manager would be unlikely to come open until about 2023"; and that although there were other positions (such as estimator or a safety position) that Mr. Palmquist could have filled in the future, there was "no evidence to indicate that these positions would command a greater salary" (para. [235]). Note that the court's conclusion on this matter was made despite the fact that:

- Mr. Palmquist was only 29 years old when he died in 2005, and had been employed at Almac Metal Industries Ltd. for 6 years prior to his death (since 1999)[30]
- "Almac clearly offered stable employment for Mr. Palmquist" (para. [233])
- "It is also clear from the evidence of Mr. Hendrick, that Mr. Palmquist was a very good worker and a valued employee" (para. [234])
- "…Mr. Palmquist was the kind of employee they look for but rarely find" (para. [234])
- "…notwithstanding his value as an employee, his early promotion to foreman, *and Mr. Hendrick's view that Mr. Palmquist would have had a good chance of promotion,* I consider the possibility that Mr. Palmquist would have been promoted into a more senior position speculative" (para. [235], emphasis added)

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[27] Also known as "cost of living" increases.
[28] Waddams, S.M. *The Law of Damages* (Toronto, Ontario: Canada Law Book), 2004.
[29] 2010 ABQB 337.
[30] From the plaintiff's expert report, submitted as an exhibit at trial. This author testified on behalf of the plaintiff in this case.

As economists familiar with age-earnings profiles from the Census data, it would be typical and appropriate to include occupation-specific wage growth (above inflation and productivity) for workers who are young (age 25 to 45) and if such occupation-specific wage growth has been demonstrated upon reviewing the Census data. In Mr. Palmquist's case, because he was only 29 years old, and had accumulated tenure at Almac (six years), this author proposed two scenarios: that Mr. Palmquist would have enjoyed occupation-specific wage growth as he aged;[31] and one where he would *not* have enjoyed such growth. While the latter scenario was deemed to be unlikely, since most 29-year-olds do not experience income that is "frozen" until retirement, it was provided to the court in order to comply with Alberta's civil practice note no. 10 for economic experts, which encourages quantum experts to provide both the 'worst-case' and 'best-case' scenarios. Moreover, even though there might not have been opportunities at Almac for Mr. Palmquist, most quantum experts would *still* include occupation-specific real wage growth in the event he would have changed jobs sometime from age 29 to retirement in order to increase his income.

It would appear from the court's decision in *Palmquist* that it would be beneficial for counsel to ask a company representative to testify on behalf of the employee, not only about the employee's value to the company, but also about the prospects for enhanced earnings until retirement age. Otherwise, the court may inadvertently assume a "frozen" income profile for the employee – a result that is contraindicated by data for the majority of occupations from Statistics Canada *Census* data.

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[31] This scenario assumed "real" wage growth of 0.94% per annum from 2010 to 2025, when Mr. Palmquist would have been 35 years old and his earnings would have increased to peak earnings at age 50, in 2025. The Census data show that most "real" wage growth rates range from 0.5% to 8% per annum, depending on the education level and occupation held by the individual.

UPDATING NON-PECUNIARY AWARDS FOR INFLATION (SEPTEMBER 2010, CANADA)

Year of Accident/ Year of Settlement or Trial	"Inflationary" Factors*	Non-Pecuniary Damages - Sample Awards				
		$10,000	$25,000	$50,000	$75,000	$100,000
September 2009-September 2010	1.014	$10,141	$25,352	$50,705	$76,057	$101,410
Avg. 2008-September 2010	1.017	$10,169	$25,424	$50,847	$76,271	$101,695
Avg. 2007-September 2010	1.039	$10,392	$25,980	$51,961	$77,941	$103,921
Avg. 2006-September 2010	1.061	$10,614	$26,535	$53,070	$79,605	$106,140
Avg. 2005-September 2010	1.083	$10,826	$27,066	$54,132	$81,197	$108,263
Avg. 2004-September 2010	1.107	$11,066	$27,666	$55,332	$82,997	$110,663
Avg. 2003-September 2010	1.127	$11,272	$28,180	$56,360	$84,540	$112,720
Avg. 2002-September 2010	1.158	$11,583	$28,958	$57,916	$86,874	$115,832
Avg. 2001-September 2010	1.184	$11,845	$29,612	$59,225	$88,837	$118,450
Avg. 2000-September 2010	1.214	$12,143	$30,358	$60,715	$91,073	$121,430
Avg. 1999-September 2010	1.247	$12,474	$31,185	$62,369	$93,554	$124,739
Avg. 1998-September 2010	1.269	$12,690	$31,725	$63,449	$95,174	$126,898
Avg. 1997-September 2010	1.282	$12,816	$32,041	$64,081	$96,122	$128,162
Avg. 1996-September 2010	1.302	$13,024	$32,559	$65,119	$97,678	$130,237
Avg. 1995-September 2010	1.323	$13,229	$33,073	$66,145	$99,218	$132,290
Avg. 1994-September 2010	1.351	$13,513	$33,783	$67,565	$101,348	$135,130
Avg. 1993-September 2010	1.354	$13,535	$33,838	$67,676	$101,513	$135,351
Avg. 1992-September 2010	1.379	$13,788	$34,470	$68,940	$103,411	$137,881
Avg. 1991-September 2010	1.399	$13,993	$34,982	$69,965	$104,947	$139,930
Avg. 1990-September 2010	1.478	$14,781	$36,951	$73,903	$110,854	$147,805
Avg. 1989-September 2010	1.549	$15,488	$38,720	$77,440	$116,161	$154,881
Avg. 1988-September 2010	1.626	$16,260	$40,650	$81,300	$121,950	$162,600
Avg. 1987-September 2010	**1.691**	$16,913	$42,282	**$84,565**	$126,847	$169,130
Avg. 1986-September 2010	1.765	$17,650	$44,125	$88,251	$132,376	$176,501
Avg. 1985-September 2010	1.839	$18,390	$45,975	$91,950	$137,925	$183,900
Avg. 1984-September 2010	1.912	$19,119	$47,796	$95,593	$143,389	$191,185
Avg. 1983-September 2010	1.994	$19,941	$49,854	$99,707	$149,561	$199,415
Avg. 1982-September 2010	2.111	$21,112	$52,780	$105,560	$158,339	$211,119
Avg. 1981-September 2010	2.338	$23,384	$58,460	$116,919	$175,379	$233,838
Avg. 1980-September 2010	2.630	$26,305	$65,762	$131,524	$197,286	$263,048
Avg. 1979-September 2010	2.897	$28,969	$72,424	$144,847	$217,271	$289,695
Jan. 1978-September 2010	**3.300**	$32,997	$82,493	$164,986	$247,479	**$329,972**

$84,565= $50,000 x 1.691 represents the dollar equivalent in September 2010 of $50,000 based on inflation increases since 1987. Similarly, $329,972 (=$100,000 x 3.300) represents the dollar equivalent in September 2010 of $100,000 in 1978 based on inflationary increases since the month of January 1978.

* Source: Statistics Canada, Consumer Price Index, monthly CPI release, rolling average (except for Jan. 1978).

Consumer Price Index $ Unemployment Rate

From Sep 2009 to Sep 2010* (rates of inflation)		For the month of September 2010	
Canada**	1.9%	Canada:	8.0%
Vancouver:	1.9%	Vancouver:	7.3%
Toronto:	3.2%	Toronto:	9.2%
Edmonton:	0.9%	Edmonton:	6.8%
Calgary:	0.8%	Calgary:	6.6%
Halifax:	1.7%	Halifax:	6.3%
St. John's, NF:	2.3%	St. John's, NF:	8.1%
Saint John, NB:	1.7%	Saint John, NB:	8.5%
Charlottetown:	0.9%	Charlottetown (PEI):	13.6%

* Using month-over-month indices. Source: Statistics Canada

** 12 month rolling average up to September 2010 is 1.4% (see table above).