



Brown's Economic Damages Newsletter

January 2010

Volume Seven Issue 1

Brown Economic offers 5 user-friendly economic loss calculators for quick, accurate, and cost-effective damages estimates:

- Non-Pecuniary (free)
- Working Life / Life Expectancy (free)
- Present Value (free)
- Housekeeping (pay per use)
- Income Damages (pay per use)

Cara Brown, M.A., Principal
Maureen Mallmes, B.Sc., SEMC
Dan Clavelle, M.Ec.
Laura Dick, B.A.
Al-Nashina Abji, M.A.
Jamie King, B.A.
Shelley Hulbert
Elda Figueira, MLIS
J.C.H. Emery, Ph.D.
Frank Strain, Ph.D.
Stephen Clark, Ph.D.
Emmanuel Yiridoe, Ph.D.

2006 Participation and Activity Limitation Survey ("PALS"): preliminary results

The 2006 PALS, successor to the 2001 PALS, released its micro-data *Public Use Micro-data File* ("PUMF") in July of 2009. Brown Economic has purchased the 2006 PALS PUMF to derive results on wage gaps between the disabled and non-disabled, similar to the analysis conducted of the 2001 PALS.

Between 2001 and 2006,¹ the disability rate in Canada increased from 12.4% in 2001 to 14.3% in 2006; about 40% of this increase was due to the increase in the age of the Canadian population. (Between 2001 and 2006, the median age of Canadians increased from 37.0 years to 38.3 years).²

In this issue of **Brown's Economic Damages Newsletter**, we present preliminary findings from several catalogues released by Statistics Canada using the 2006 PALS data. Note that these findings fall into the category of "descriptive statistics", in that they are simple medians or average statistics. No attempt yet has been made to analyze this data in terms of regression analysis, which allows us to control for the impact of other variables than disability on earnings and employment. Regression analysis will be the next step in the process now that we have obtained the 2006 PALS PUMF. Nonetheless, these 'descriptive statistics' are a starting point in observing the experience of disabled persons in the Canadian labour force.

For more information on the 2001 PALS and regression results, please visit:

www.browneconomic.com > HALS/PALS Analyses

This section of our website also provides users with the questionnaires for the plaintiff to complete, and provides access to the working paper published by Brown & Emery on the 2001 PALS wage gaps.

¹The major change from the 2001 to 2006 surveys was the target population. Whereas the 2001 PALS excluded populations in the territories and excluded Aborigines (because the latter were covered by the 2001 *Aboriginal Peoples Survey*, APS), the 2006 survey included the territories and Aborigines. The 2006 PALS also included people residing in non-institutionalized collective dwellings (seniors) for the first time. The other major change was in the identification of "type" of disability – the 2006 PALS disaggregated the findings into more types than the 2001 PALS. For instance, in the 2001 PALS, an overall category called "other" combined disabilities due to learning, memory, developmental and emotional or psychological origins. In the 2006 PALS, the specific categories within the "other" category are separated from each other such that there are four categories from the previous "other" one: learning; memory; developmental; and psychological. (Source: Statistics Canada, *Participation and Activity Limitation Survey 2006: Technical and Methodological Report*, catalogue no. 89-628-XIE, December 2007, Table 4, p. 28.)

² Statistics Canada, *Participation and Activity Limitation Survey 2006: Analytical Report*, catalogue no. 89-628-XIE-No. 002, December 2007, pp. 11, 13.

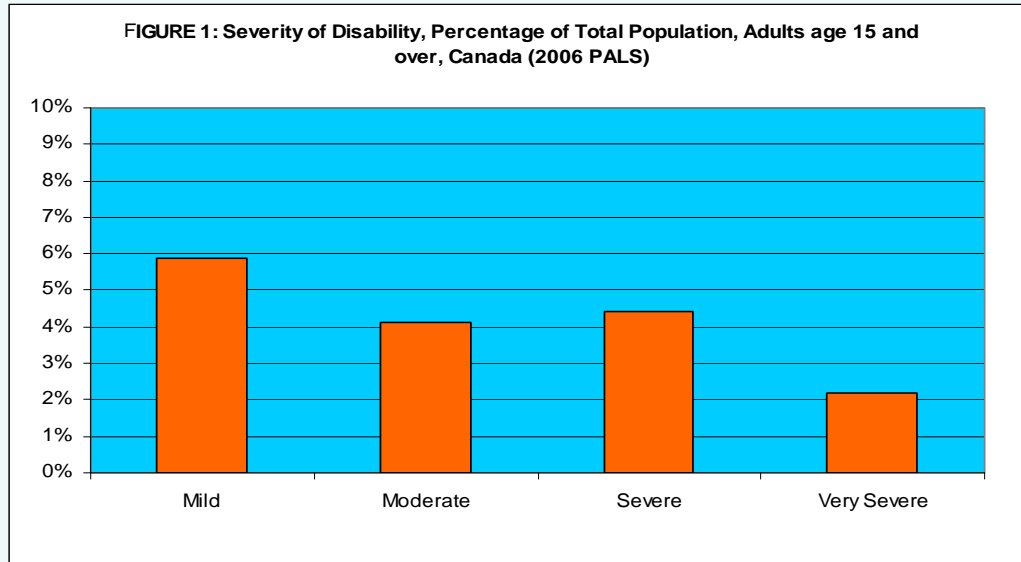
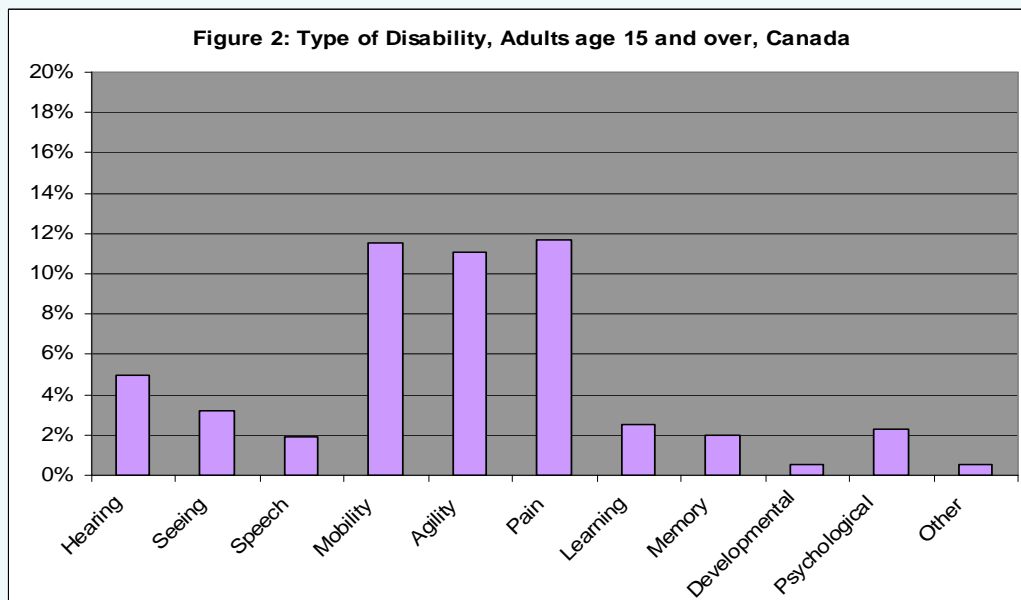


Figure 1³ shows the breakdown of **severity of disability** from the 2006 PALS between mild, moderate, severe and very severe in the total Canadian population.⁴ The 2006 PALS registered an increase in all levels of severity in the Canadian population: 27% *more* Canadians identified themselves as mildly disabled; 21% *more* Canadians identified themselves as moderately disabled; 19% and 16% *more* Canadians identified themselves as severely or very severely disabled, respectively.⁵ Because each severity category experienced an increase in numbers, the overall distribution of mild, moderate, severe and very severe did not change appreciably.

Figure 2⁶ shows the breakdown of disabled Canadians in terms of the **type of disability** reported.



³ Source: Statistics Canada's *Participation and Activity Limitation Survey 2006: Analytical Report*, Catalogue no. 89-628-XIE – No. 002, December 2007, Table 12.

⁴ "The level of severity depends on the frequency and intensity of the limitations associated with the disability. Thus, the severity of a disability can be driven by two factors, the cumulative effect of multiple disabilities or the overall effect of one significant disability...The levels of severity for individual disabilities are combined to provide a measure of the overall level of severity." (Source: Statistics Canada, *Participation and Activity Limitation Survey 2006: Analytical Report*, catalogue no. 89-628-XIE-No. 002, December 2007, p. 35).

⁵ Source: Statistics Canada, *Participation and Activity Limitation Survey 2006: Analytical Report*, catalogue no. 89-628-XIE-No. 002, December 2007, Chart 5.

⁶ Source: Statistics Canada's *Participation and Activity Limitation Survey 2006: Analytical Report*, Catalogue no. 89-628-XIE – No. 002, December 2007, Table 9.

Figure 3⁷ shows the **participation rates**⁸ for Canadians *without* a disability, compared to those with a mild, moderate or severe disability. Note that these rates are for both genders combined, so they obscure some differences between the sexes in terms of **labour force attachment** (regardless of disability level).⁹ As expected, participation rates are lower for disabled persons compared to non-disabled persons, and this effect increases as the severity of disability increases. Indeed, most researchers find that disability operates mainly to depress participation (i.e. the choice or capacity for work).

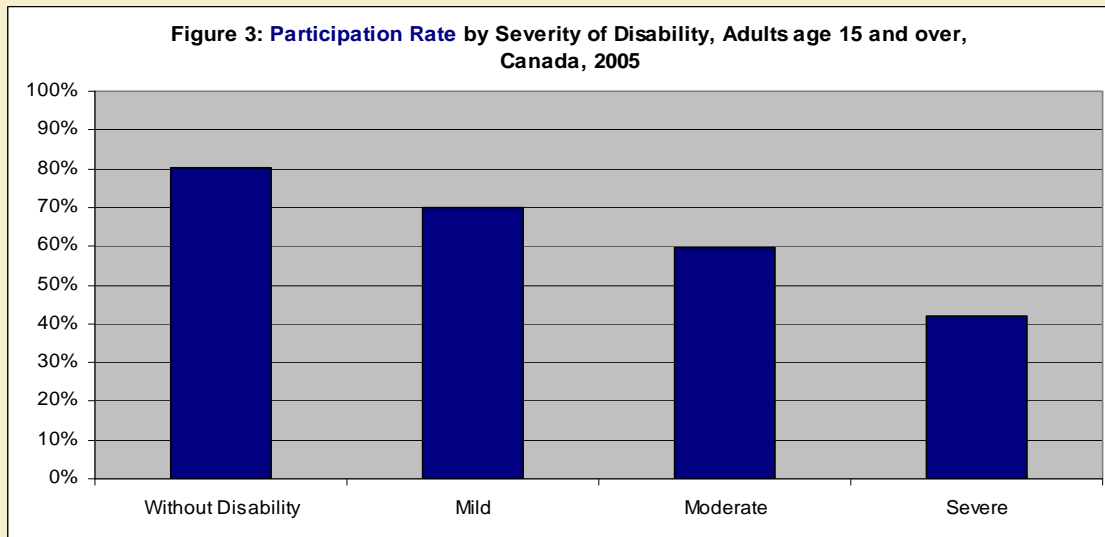
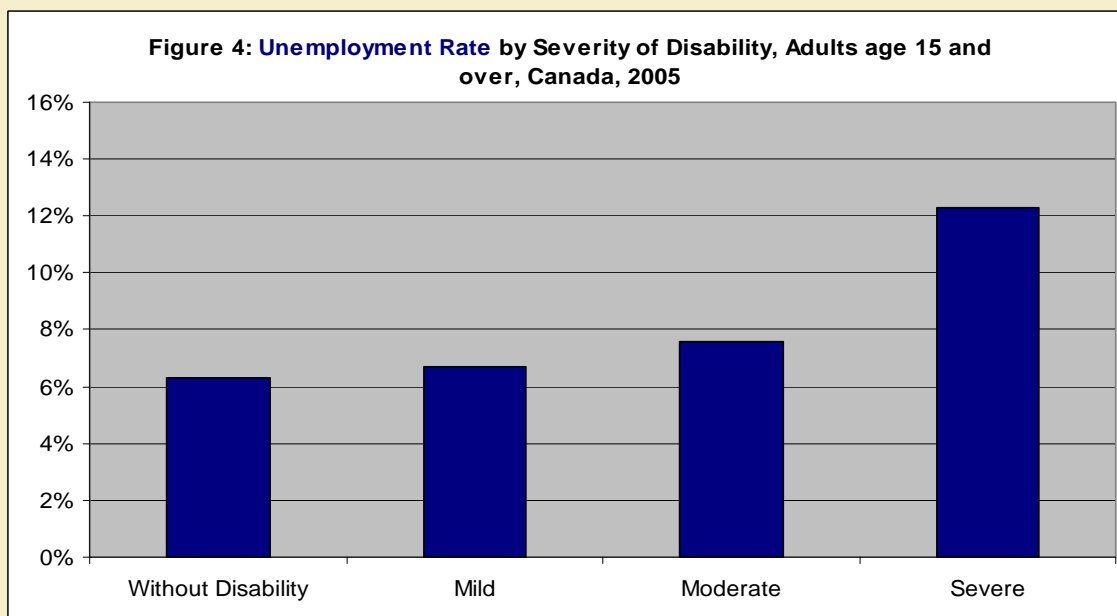


Figure 4¹⁰ is similar to Figure 3 but shows **unemployment rates** for Canadians *without* a disability, compared to those with a mild, moderate or severe disability. Again these rates are for both genders combined.



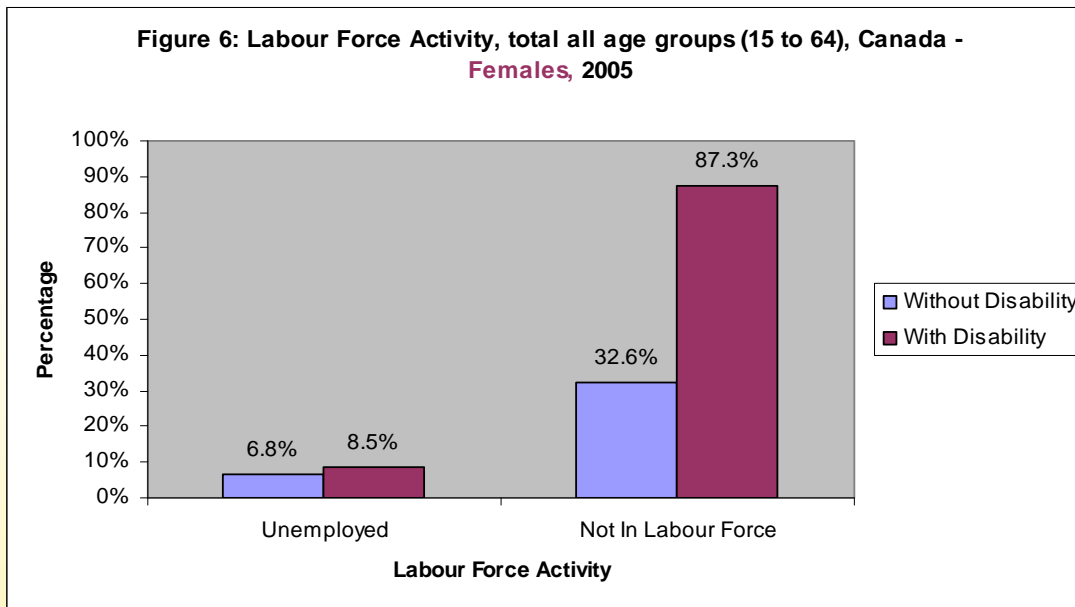
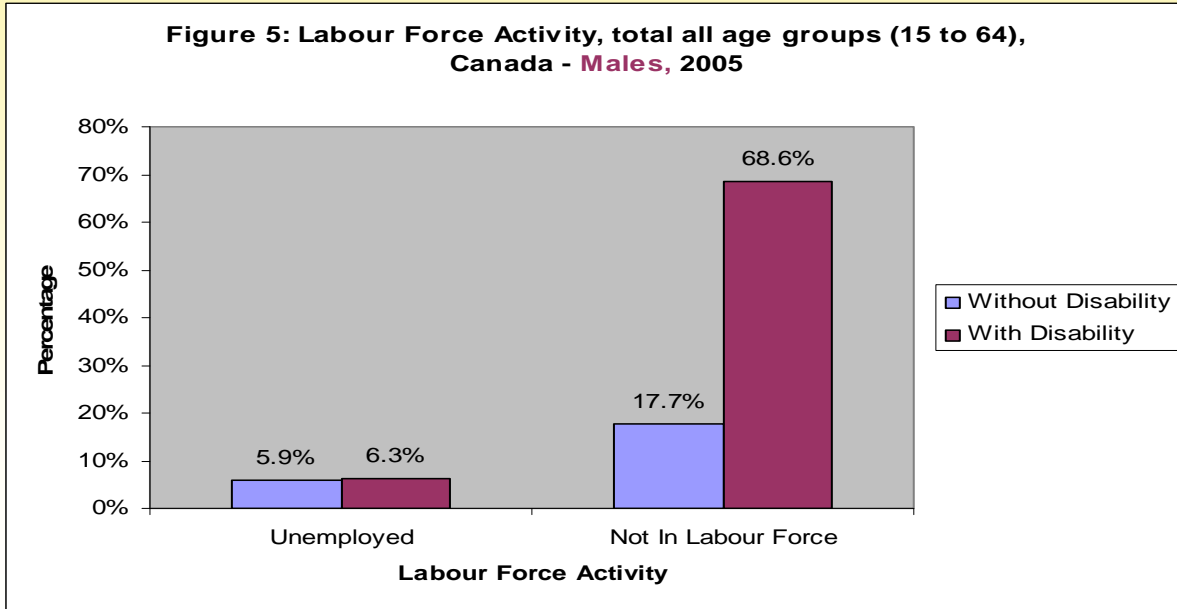
⁷ Source: Statistics Canada's *Participation and Activity Limitation Survey 2006: Tables (Part III)*, Catalogue no. 89-628-X – No. 008, July 2008, Table 2.

⁸ The "participation rate" is the number of persons participating in the labour force (either working or seeking work, i.e. the unemployed) as a proportion of the total population.

⁹ "Labour force attachment" is defined as the "extent to which one is continuously employed over their employment life span, or as the extent to which one is continuously employed throughout a given year, that is, the hours per week and weeks per year worked." (Source: Berna J. Skrypnik and Janet E. Fast, "Trends in Canadian Women's Labour Force Behaviour: Implications for Government and Corporate Policy" *Papers on Economic Equality prepared for Economic Equality Workshop*, November 1993).

¹⁰ Source: Statistics Canada's *Participation and Activity Limitation Survey 2006: Tables (Part III)*, Catalogue no. 89-628-X – No. 008, July 2008, Table 2.

Figure 5 shows labour force activity for **males**, and compares the unemployed and those not in the labour force between the disabled and non-disabled. Figure 6 repeats this exercise but with data for **females**.¹¹



¹¹ Source for both: Statistics Canada's *Participation and Activity Limitation Survey 2006: Tables (Part III)*, Catalogue no. 89-628-X – No. 008, July 2008, Table 3.

Figure 7 displays **median employment income** for people across Canada and provinces who are not disabled (“without disability”) and those who are disabled (“with disability”) and then computes the percentage reduction in earnings by comparing the two income levels. As expected, the median employment income for the disabled, in each province, is lower than for the non-disabled, by an average percentage reduction of almost 33%. There are a few caveats to note, however. First, this table shows employment income combining *both* genders – and we know the overall gender wage gap varies by age group, with the smallest gap occurring at the youngest age groups (workers age 25 to 29), having decreased from 26% in 1981 to 18% in 2001.¹² Gender wage gaps are larger for older workers when child rearing commences. (Figure 8 below disaggregates median employment income by gender, but not by province). Second, this table simply compares employment income but does not account for other human capital characteristics that cause differences in earnings, such as hours worked; education levels; occupation choices; and other intangible attributes (such as ambition, ability, etc.) Only until we conduct regression analysis can we know the true difference in employment income from disability as a factor on its own.

The importance of regression analysis cannot be underestimated. Many forensic accountants and other financial experts only rely on differences between simple averages (as shown in Figure 7 below), or use the actual residual income for the disabled, to conduct what they label “PALS Analysis”. Often, this will **overstate** the wage gap between the able-bodied and disabled.

Figure 7: Median Employment Income, both sexes, 2005

	Without Disability	With Disability	% Reduction
Canada	\$27,902	\$18,521	-33.6%
Newfoundland and Labrador	\$18,144	\$13,456	-25.8%
Prince Edward Island	\$20,323	\$13,831	-31.9%
Nova Scotia	\$23,525	\$15,899	-32.4%
New Brunswick	\$23,131	\$15,831	-31.6%
Quebec	\$26,616	\$16,245	-39.0%
Ontario	\$29,991	\$20,202	-32.6%
Manitoba	\$24,887	\$19,489	-21.7%
Saskatchewan	\$24,364	\$14,097	-42.1%
Alberta	\$30,200	\$21,178	-29.9%
British Columbia	\$26,949	\$16,316	-39.5%
Average Reduction in Earnings of Disability			-32.7%

Source: Statistics Canada's *Participation and Activity Limitation Survey 2006: Tables (Part V)*, Catalogue No. 89-628-X - No. 011, October 2008, Table 7.3.

Figure 8 breaks down median employment income by gender, for all of Canada. While this provides a starting point for the wage gap between female and male able-bodied and disabled persons, again it is a ‘descriptive’ statistic and not one yet confirmed by regression analysis.

Figure 8: Median Employment Income, 2005

	Without Disability	With Disability	% difference
Female	\$21,998	\$16,035	-27%
Male	\$34,029	\$21,543	-37%

Source: Statistics Canada's *Participation and Activity Limitation Survey 2006: Tables (Part V)*, Catalogue No. 89-628-X - No. 011, October 2008, Table 7.2.

¹² Frenette, Marc and Simon Coulombe, “Has Higher Education among Young Women Substantially Reduced the Gender Gap in Employment and Earnings?” Statistics Canada's *Analytical Studies Branch Research Paper Series*, catalogue no. 11F0019MIE – no. 301, June 2007, Table 3, p. 15.

Figure 9 shows **average employment income** statistics by *type* of disability. (Median statistics were incomplete). Notably, we know from the 2006 PALS that almost 82% of adults living with disabilities have several, as opposed to only 18% who report having just one disability.¹³ The first column shows the overall employment income combined for all types of disability; the following three columns break it down by type of disability (hearing, seeing, communication, mobility, agility, pain, learning, memory, developmental and emotional or psychological). While we do not have the comparison in *Figure 9* to earnings of the *non*-disabled, we can see that, as expected, average employment income **decreases** as the severity of disability **increases** – but there are a few exceptions, notably in the categories for communication, learning and developmental. This kind of result can be troubling and calls out for regression analysis to determine what impact disability has rather than impacts from other factors. It could be that other factors (human capital characteristics or intangible attributes) are influencing the averages. This cannot be determined by simply looking at descriptive averages.

Figure 9: Average Employment Income, both sexes, 2005

	Total - average employment income (all severity levels)	Mild	Moderate	Severe or very severe
Total - all types of disability	\$26,640	\$29,827	\$27,977	\$20,848
Hearing	\$27,035	\$31,447	\$29,541	\$20,201
Seeing	\$24,566	\$28,065	\$27,789	\$21,812
Communication	\$18,858	\$14,969	\$27,512	\$17,490
Mobility	\$24,005	\$25,027	\$27,122	\$21,379
Agility	\$25,523	\$29,937	\$28,728	\$20,990
Pain	\$26,904	\$32,374	\$28,413	\$21,288
Learning	\$20,215	\$16,538	\$26,220	\$19,504
Memory	\$17,498	\$24,030	\$22,750	\$15,904
Developmental	\$18,047	\$12,132	F	\$17,255
Emotional or psychological	\$19,244	\$25,631	\$25,896	\$15,902

Source: Statistics Canada's *Participation and Activity Limitation Survey 2006: Tables (Part V)*, Catalogue No. 89-628-X - No. 011, October 2008, Table 7.4.

¹³ Statistics Canada, *Participation and Activity Limitation Survey 2006: Analytical Report*, catalogue no. 89-628-XIE-No. 002, December 2007, p. 35.

UPDATING NON-PECUNIARY AWARDS FOR INFLATION (DECEMBER 2009, 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
December 2008-December 2009	1.008	\$10,080	\$25,200	\$50,400	\$75,599	\$100,799
Avg. 2007-December 2009	1.030	\$10,301	\$25,751	\$51,503	\$77,254	\$103,006
Avg. 2006-December 2009	1.052	\$10,521	\$26,301	\$52,603	\$78,904	\$105,205
Avg. 2005-December 2009	1.073	\$10,731	\$26,827	\$53,655	\$80,482	\$107,310
Avg. 2004-December 2009	1.097	\$10,969	\$27,422	\$54,844	\$82,266	\$109,689
Avg. 2003-December 2009	1.117	\$11,173	\$27,932	\$55,864	\$83,796	\$111,727
Avg. 2002-December 2009	1.148	\$11,481	\$28,703	\$57,406	\$86,109	\$114,811
Avg. 2001-December 2009	1.174	\$11,741	\$29,352	\$58,703	\$88,055	\$117,406
Avg. 2000-December 2009	1.204	\$12,036	\$30,090	\$60,180	\$90,270	\$120,361
Avg. 1999-December 2009	1.236	\$12,364	\$30,910	\$61,820	\$92,730	\$123,640
Avg. 1998-December 2009	1.258	\$12,578	\$31,445	\$62,890	\$94,335	\$125,781
Avg. 1997-December 2009	1.270	\$12,703	\$31,758	\$63,517	\$95,275	\$127,033
Avg. 1996-December 2009	1.291	\$12,909	\$32,273	\$64,545	\$96,818	\$129,090
Avg. 1995-December 2009	1.311	\$13,113	\$32,781	\$65,563	\$98,344	\$131,125
Avg. 1994-December 2009	1.339	\$13,394	\$33,485	\$66,970	\$100,455	\$133,940
Avg. 1993-December 2009	1.342	\$13,416	\$33,540	\$67,080	\$100,619	\$134,159
Avg. 1992-December 2009	1.367	\$13,667	\$34,167	\$68,333	\$102,500	\$136,667
Avg. 1991-December 2009	1.387	\$13,870	\$34,674	\$69,349	\$104,023	\$138,698
Avg. 1990-December 2009	1.465	\$14,650	\$36,626	\$73,252	\$109,877	\$146,503
Avg. 1989-December 2009	1.535	\$15,352	\$38,379	\$76,758	\$115,138	\$153,517
Avg. 1988-December 2009	1.612	\$16,117	\$40,292	\$80,584	\$120,876	\$161,168
Avg. 1987-December 2009	1.676	\$16,764	\$41,910	\$83,820	\$125,730	\$167,640
Avg. 1986-December 2009	1.749	\$17,495	\$43,737	\$87,473	\$131,210	\$174,947
Avg. 1985-December 2009	1.823	\$18,228	\$45,570	\$91,140	\$136,710	\$182,280
Avg. 1984-December 2009	1.895	\$18,950	\$47,375	\$94,751	\$142,126	\$189,501
Avg. 1983-December 2009	1.977	\$19,766	\$49,415	\$98,829	\$148,244	\$197,658
Avg. 1982-December 2009	2.093	\$20,926	\$52,315	\$104,630	\$156,945	\$209,260
Avg. 1981-December 2009	2.318	\$23,178	\$57,945	\$115,889	\$173,834	\$231,779
Avg. 1980-December 2009	2.607	\$26,073	\$65,183	\$130,366	\$195,548	\$260,731
Avg. 1979-December 2009	2.871	\$28,714	\$71,786	\$143,572	\$215,358	\$287,144
Jan. 1978-December 2009	3.271	\$32,707	\$81,766	\$163,533	\$245,299	\$327,066

\$83,820= \$50,000 x 1.676 represents the dollar equivalent in December 2009 of \$50,000 based on inflation increases since 1987. Similarly, \$327,066 (= \$100,000 x 3.271) represents the dollar equivalent in December 2009 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 Dec 2008 to Dec 2009*		For the month of December 2009	
(rates of inflation)			
Canada**	1.3%	Canada:	8.5%
Vancouver:	0.7%	Vancouver:	7.8%
Toronto:	0.8%	Toronto:	9.5%
Edmonton:	0.8%	Edmonton:	7.6%
Calgary:	0.2%	Calgary:	7.3%
Halifax:	2.5%	Halifax:	6.8%
St. John's, NF:	1.7%	St. John's, NF:	9.2%
Saint John, NB:	3.2%	Saint John, NB:	6.8%
Charlottetown:	2.9%	Charlottetown (PEI):	10.7%

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

** 12 month rolling average up to December 2009 is 0.8% (see table above).

Brown Economic Consulting Inc.

HEAD OFFICE

#216, 5718-1A Street South West
Calgary, AB T2H 0E8
T 403.571.0115 F 403.571.0932

#907, 1128 Sunset Drive
Kelowna, B.C. V1Y 9W7
Toll 1.800.301.8801

1791 Barrington St., Suite 300
Halifax, NS B3J 3R7
Toll 1.800.301.8801

Email help@browneconomic.com
Web www.browneconomic.com

