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1660 McFarlane Tower
700 – 4th Avenue SW
Calgary, AB T2P 3J4

Phone: (403) 297-0012
Toll-free: 1-866-997-0012
Fax: (403) 262-5458

www.economica.ca
experts@economica.ca

Christopher J. Bruce
PhD Cambridge

Derek W. Aldridge
MA Victoria

Kelly A. Rathje
MA Calgary

Laura J. Weir
MA Calgary

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Vocational psychologists often recommend that injured plaintiffs retrain for a new occupation. An important question that arises in this situation is whether a plaintiff who is, say, 40 years old will start the new occupation at an “entry-level” income (say, that of a 25-year-old) or at the income of a 40-year-old. As the latter typically earn ten to twenty thousand dollars per year more than the former, the answer to this question can have a significant effect on the calculation of the plaintiff’s losses. Fortunately, several empirical studies that provide information concerning this issue have been published in economics journals recently. Derek Aldridge and Christopher Bruce summarise the results of these studies, to help both vocational experts, who may not be familiar with the economics literature, and economists, who may have been asked to calculate a loss in a case in which no vocational expert has provided a relevant opinion.

The cost of hiring individuals to perform household services such as housecleaning, snow removal, and handyman repairs can amount to a significant percentage of the damages in a personal injury or fatal accident claim. Yet, despite the importance of these costs, reliable estimates of the components of a household services claim are very difficult to obtain. To assist the court in this respect, Economica has conducted several surveys of household services costs since 1997. In this issue of the *Expert Witness*, Christopher Bruce and Jody Prevost report the findings of the 2018 version of this survey.

News from Economica

In October, Derek Aldridge gave evidence before the Alberta Court of Queen's Bench in a personal injury case. The case involved an injured postal worker. One of the interesting issues was that the plaintiff had been accommodated by her employer, but there is uncertainty whether that accommodation would continue, or whether it should be assumed to continue. Another issue was selecting a without-accident retirement age for a mid-50s plaintiff, when the plaintiff's evidence regarding her intentions differs from statistical averages.

Derek Aldridge and Christopher Bruce published an article titled “Estimating the Impact of Mid-Career Retraining” in the *Journal of Legal Economics*, Vol. 21 (1-2), September 2018.

Christopher Bruce, Derek Aldridge, Kelly Rathje, and Laura Weir are currently preparing the sixth edition of *Assessment of Personal Injury Damages*. Publication is expected for summer 2019.

Christopher Bruce's article "Cross versus Sole Dependency" was published in Vol. 155 of the B.C. Trial Lawyers' Association journal, *The Verdict*.

The Cost of Household Services, Alberta, 2018: A Survey

Jody Prevost and Christopher Bruce, Economica

The cost of hiring individuals to perform household services such as housecleaning, snow removal, and handyman repairs can amount to a significant percentage of the damages in a personal injury or fatal accident claim. Yet, despite the importance of these costs, reliable estimates of the components of a household services claim are very difficult to obtain. In order to assist the court in this respect, Economica has conducted a number of surveys of household services costs since 1997.

In those surveys, for example, we found that the average hourly cost of housecleaners in Calgary rose from approximately \$13.50 in 1997, to \$30.00 in 2014; and for handymen the rates rose from \$24.00 in 1997 to \$35.00 in 2014.

As four years have passed since our last survey, and as our experience suggests that rates tend to increase appreciably over time, we undertook a new survey of providers in 2018. In each case, we conducted exhaustive searches of relevant quotes using Kijiji and Google (the two most common sources of advertisements). This article summarises our findings.

Housecleaning

Using the internet, we identified sixteen professional agencies (for example, Mango Maids) in Calgary and fourteen in Edmonton that provide house cleaning; and we identified six ads from individuals (on Kijiji) in Calgary and seven in Edmonton.

In Calgary, the average rate among professional agencies was \$41.38 per hour, with a range from \$25.00 to \$56.80. The comparable average for Edmonton was \$39.28, ranging from \$25.00 to \$65.66. Among those individuals who advertised on sites such as Kijiji, the average hourly rate in Calgary was \$26.67 and in Edmonton was \$30.57.

In the smaller cities, most of our data came from Kijiji. In those cities, the average hourly rates (with numbers of ads in brackets) were: Lethbridge (6), \$29.16; Red Deer (7), \$29.71; Medicine Hat (5), \$29.00; and Grande Prairie (7), \$29.30.

We conclude that rates for individual suppliers average approximately \$29.00 per hour across all Alberta cities; and that comparable rates for professional agencies average approximately \$40.00 per hour (where such services are available).

These data raise two important questions: first, if individuals listed on Kijiji charge approximately \$29 per hour, why do consumers hire professional agencies at \$11 per hour more than that? Second, why do the rates for individual suppliers exceed the hourly wages paid to individuals who work for professional agencies?

Professional agencies versus individuals

We suspect that the answer to the first of these questions derives from three factors.

First, agencies may be able to offer a higher quality of service than can private individuals. For example, they might provide training to their employees, use screening interviews to select the most skilled workers, or offer to replace workers who proved to be unacceptable to the client.

Second, it is possible that agencies might be able to complete their tasks more quickly than would private contractors, thereby lowering the effective hourly rate of the former.

Finally, commercial firms may be better able than individual cleaners to develop reputations for reliable service. If a cleaner is sick or otherwise unable to work, a firm can often replace that individual with another employee; whereas if self-employed individuals are unable to meet their commitments, their jobs go un-

done. Customers may be willing to pay a premium for the more reliable service.

Regardless of the answer to this question, however, the fact is that it would be very difficult to hire a reliable housecleaner in Calgary or Edmonton for less than \$30 per hour – and that cost would rise to more than \$40 per hour if the client wished to hire a bonded cleaning service.

Self-employed suppliers versus employees

A second puzzle raised by our findings is that, according to the Alberta Wage and Salary Survey, “light duty cleaners” earned an average of \$16.08 per hour in 2017, with a range of \$12.75—\$20.13, more than \$10.00 per hour less than the rates charged by individuals advertising on Kijiji. What is the source of this differential? One possibility is that the individuals identified by the Survey are working as employees for large cleaning companies and, therefore, have security of employment; whereas those advertising on Kijiji are self-employed, with the attendant uncertainties and with the requirement, in many cases, that they provide their own cleaning supplies. Another possibility is that it is the more productive, reliable individuals who choose self-employment. Regardless of the answer, our evidence suggests that individual plaintiffs will not be able to hire housecleaners at the wage found in the Alberta Wage and Salary Survey. It is the rates found on Kijiji and on the websites of professional agencies that best reflect the cost of hiring a housecleaner for an hour.

A caveat

It should be noted, however, that even if it costs, say, \$30 to hire a housecleaner for one hour, it does not follow that it will cost \$30 to replace one hour of a plaintiff’s time. The reason for this is that professional cleaners may be able to complete more work in an hour than

could non-professionals (i.e. than plaintiffs). The best information we have available, for example, suggests that this differential is approximately 25 percent; that is, to replace one of the plaintiff’s hours will require only 0.75 hours of a professional’s time. In this case, the cost of replacing an hour will be \$22.50 (= 0.75 x \$30). [Note: this argument with respect to the greater efficiency of professional providers applies to all of the other services identified in this report, except child care.]

Handyman

With respect to handyman services, we obtained quotes from Yelp, Google and Kijiji. In each case, we requested a quote to “replace several fence boards, clean and repair the gutters, and paint the step rails and trim.”

In Calgary, where we received responses from four individuals and five professional companies, the average hourly rate was \$45.28. Three companies had minimum charges of two hours.

In Edmonton, where we received responses from six professional companies and four individuals, the average hourly rate was \$47.50. Only two companies specified a minimum number of hours billed.

In both cities, the preponderance of quotes fell between \$40.00 and \$50.00.

Lawn care and snow removal

Lawn care

In our search for lawn care rates in Calgary and Edmonton we asked for quotes for a 2400 square foot lot with an 1800 square foot house, front and back. Of sixteen lawn care companies surveyed in Calgary, fifteen ads were from professional companies and one from an individual. In Edmonton, of fourteen lawn care companies surveyed, eleven were from professional services and three from individuals.

In Calgary the average cost was \$36.73 per visit for lawn care and \$200 per month for lawn cutting. In Edmonton these rates were \$46.63 and \$157.80, respectively.

Snow removal

With respect to snow removal, we surveyed businesses in Calgary and Edmonton for quotes to remove snow from a home with a two-car driveway, stairs, entry, and city sidewalk.

Twelve companies in Calgary responded, with an average per visit rate of \$36.33 and a monthly “unlimited” rate of \$176.05. In Edmonton, eleven companies responded, with an average per visit rate of \$41.14 and a monthly “on demand program” of \$182.05.

Child care

We identified six methods of providing (commercial) child care: day care, day home, live-in nanny, live-out nanny, before- and after-school care, and (hourly) babysitting. We obtained all of our information from Google and kijiji.

Day homes

We identified six day homes in Calgary and nine in Edmonton. In Calgary, the rates averaged \$57.50 per day, or \$845 per month; whereas the comparable rates in Edmonton were \$45 per day, or \$759 per month.

Day care

Our findings with respect to the monthly cost of day care are reported in Table 1. There, we provide rates by four age groups: infants (0 to 18 months), pre-toddlers (18-24 months), toddlers (24-36 months) and pre-school (four and five years).

Before- and after-school care

The average monthly rate for before- and after-school care, for children in grades one to six, was found to be \$532 per month in Calgary (nine agencies) and \$603 in Edmonton (six agencies).

Nannies

The average monthly rate for the three live-in nannies we identified in Calgary was \$2,466, and for three live-out nannies it was \$3,200. We also obtained hourly rates, averaging \$17.50 (approximately \$3,500 per month) for fifteen live-out nannies in Calgary.

In Edmonton, the monthly rate for the six live-in nannies we identified was \$2,300; and for the five live-out nannies in our survey it was \$2,600. We were also able to obtain hourly wages for fifteen live-in and fifteen live-out nannies in Edmonton. The average rates for those samples were \$16.00 and \$16.47, respectively (approximately \$3,200 and \$3,300 per month, respectively).

Table 1
Average Monthly Cost of Day Care
Calgary and Edmonton: 2018

	Calgary		Edmonton	
	Number	Monthly	Number	Monthly
Infants (0-18 mos.)	6	\$ 1,428	10	\$ 1,017
Pre-Toddlers	8	1,374	11	916
Toddlers	9	1,262	11	836
Pre-School	9	1,194	10	796

Babysitting

In each of Calgary and Edmonton, we obtained twenty quotes for babysitting services. In each city, eleven of the quotes came from Kijiji and nine came from a website called nannyservices.ca. The average hourly quote from Kijiji was \$14.55 in Calgary and \$13.23 in Edmonton. The average quote from nannyservices was \$15.77 in Calgary and \$16.33 in Edmonton. In both cities and for both sources, the most common rate was \$15 per hour. (The slightly higher rate from nannyservices appears to have arisen because many of the individuals advertising on that site offered ancillary services such as dog walking and light housekeeping.)

Home care and meal preparation

Generalized home care services range in price by the level of assistance required. We obtained information from five professional agencies in Calgary and Edmonton – Home Care Assistance Calgary, Miraculum Home Care, Wild Rose Caregivers, Classic Life Care, and Paramed Home Health - concerning the costs of caring for “a relative that had been injured in an accident and was recuperating at home”.

Home Care Assistance Calgary provided quotes for both daily and monthly care for: meal preparation, light housekeeping, grocery shopping, grooming and dressing, bathing assistance and in some cases medical assistance. Their rates were \$128 per day for part-time care and \$256 per day for full-time care. Weekly rates varied from \$384 to \$1,792; and monthly rates from \$1,164 to \$7,765, depending on the number of hours required.

We found that hourly rates for the five agencies varied according to the qualifications of the workers who were required. Health care aides cost from \$27 to \$32 per hour; licensed practical nurses approximately \$37 per hour; and registered nurses approximately \$60 per hour.

We also obtained rates from individuals advertising on the website nannyservices.ca. Searching under companion and health care aide, we found that health care aides and personal service workers charge an average hourly rate of \$21 in Calgary and \$18 in Edmonton. In both cities, full time services cost \$2,800 per month.

Summary

In this article, we have reported the results of a survey of household services providers in Alberta. Two outcomes are very clear. First, it is inappropriate to use a single, hourly rate to evaluate all such services. Whereas child care services cost less than \$10 per hour, (\$45 to \$57 per day), housecleaning services cost almost \$30 per hour, and lawn care and snow removal cost over \$35 per visit.

Second, the convention of using \$12 to \$16 per hour for household services is unsupported. With the exception of child care, all of the services that were identified in our survey cost significantly more than that, even after allowing for the greater efficiency of professionals.

Our findings also strongly support the view that hourly rates for housekeeping services should *not* be obtained by simply averaging the figures that have been adopted in previous cases. We are pleased to note that Madame Justice D. C. Read agreed with our conclusion on the latter point in her decision in *Palmquist v. Ziegler*, 2010 ABQB 337, at para [271] (emphasis added):

By using an average of numbers accepted in other cases in order to establish a number used to make an assumption in this case, all of the possible errors, either of the trial judge or of the economists who gave evidence in those cases, are incorporated into the number to be used in

this case. Courts rely upon economists to determine what assumptions are reasonable to make and their decisions are only as reasonable as are the assumptions used. I have no means of evaluating the expert evidence that was before those other courts to determine whether or not I accept the assumptions made. *It is circular to accept that an average of numbers accepted by another courts has any validity in respect to the issue of what economic assumptions are reasonable for me to make in this case.*

Proposal

Statistics Canada provides data concerning the amounts of time spent on six types of “household work and related activities.” These are: cooking/washing up, house cleaning and laundry, maintenance and repair, other household work, shopping for goods and services, and primary child care. For the purposes of calculating the costs of household services, in our reports we will combine “cooking/washing up” with “shopping” and evaluate that category at the approximate average rate for home care and meal preparation, \$32.00 per hour (up from \$25.00 per hour in our 2014 survey).

We will combine “maintenance and repair” with “other household work” (a large portion of which consists of “gardening and ground work”) and evaluate the resulting services at the landscaping, snow removal, and handyman services rate of approximately \$38.00 per hour (up from \$35.00 in 2010).

We will evaluate “house cleaning and laundry” at the rate for housecleaning services. For the purposes of our reports, we propose to use the conservative rate of \$29.00 per hour in all regions of Alberta (down from \$30 per hour in Calgary and Edmonton in 2014, but up from \$25.00 per hour elsewhere).

For each of the preceding services, however, we will assume that professionals will be 25 percent more efficient than the plaintiff would have been. Hence, our assumption is that the cost of those services is 25 percent less than the rate that has been quoted per hour.

We will assume that it in Calgary it costs \$1,200 per month to care for each infant (the approximate mid-point of day care and home care costs), or \$900 in Edmonton; \$1,000 to care for each toddler/pre-school child in Calgary, (\$800 in Edmonton); and \$525 per month to provide before- and after-school care for each school-aged child in Calgary (\$600 in Edmonton).

Finally, for the purposes of quantifying child care costs on an hourly basis, we propose to employ \$15.00 per hour, (the most common rate quoted for babysitting in Calgary and Edmonton).

Christopher Bruce is the President of Economica; he has a PhD in economics from the University of Cambridge

Jody Prevost is the administrative assistant at Economica

The Impact of a Mid-Career Change on Earnings

Derek Aldridge and Christopher Bruce

Vocational psychologists often recommend that injured plaintiffs retrain for a new occupation. An important question that arises in this situation is whether plaintiffs will start that occupation at an “entry-level” income (say the income of a 25 year-old) or at the income of an individual of the plaintiff’s calendar age. The importance of this issue can be seen in Table 1, which reports that, in two occupations that are commonly recommended as retraining possibilities - partsman and drafting technologist/technician - incomes for middle-aged workers can be 50 to 100 percent higher than those for 20-24 year-olds.

If it has been recommended that, say, a 40 year-old male retrain to enter one of these occupations, the economic expert is faced with determining which of the income levels from Table 1 best represents the income at which the plaintiff will begin his new career. If experience in the occupation, or movement along a career ladder, are important determinants of income, then we would expect that the plaintiff would begin at one of the lower incomes suggested by the census data. Perhaps with his greater maturity the 40 year-old would not start at the income level of a 20-25 year-old; but with no experience in this occupation, it seems unlikely that he would start at the income of a 40 year-old.

Fortunately, a number of empirical studies that provide information concerning this issue have been published in economics journals recently. We summarise the results of these studies here, to provide assistance both to vocational experts, who may not be familiar with the economics literature, and to economists, who may have been asked to calculate a loss in a case in which no vocational expert has provided a relevant opinion.

In the earliest of these studies, Goldsmith and Veum (2002) used a detailed survey that followed 1400 young workers from 1979 to 1996 to compare the effects of additional years of experience on wages when individuals: remained in the same occupation and industry, remained in the same occupation but moved between industries, remained in the same industry but changed occupations, and changed both occupations and industries. What they found was that the value that was placed on previous experience was approximately the same for all individuals except those that had changed *both* occupation and industry. In their words:

...experience acquired while a real estate agent is valued similarly as tenure at other occupations, such as accounting, within the real estate industry. In addition, the experience as a real estate agent is valued similarly to tenure at other industries, such as the pharmaceutical industry, if continuing in the occupation of sales. If the real estate agent becomes an accountant in the pharmaceutical industry, however, the experience as a real estate agent is of less value than that within accounting or the pharmaceutical industry.
(p. 442)

Referring to the examples in Table 1, Goldsmith and Veum’s findings suggest that the 40 year-old who retrain as a partsman may be able to earn an income comparable to that of a 40 year-old partsman with 15 years experience, if the retrained individual remains within his previous industry. For example, if an individual who had previously worked on oil rigs becomes a partsman in a shop that provides equipment to oil rigs, he might be expected to obtain a starting salary much higher than he would have

Average incomes for partsmen and drafting technologists, Canada 2011

Age category	Storekeepers and partspersons (NOC 1522)		Drafting technologists and technicians (NOC 2253)	
	No. of workers	Average income (2010 \$)	No. of workers	Average income (2010 \$)
15+	6,360	\$ 49,485	5,350	\$ 54,417
20–24	340	36,860	370	31,093
25–29	670	42,949	820	46,341
30–34	630	44,589	955	49,133
35–44	1,370	51,458	1,390	56,731
45–54	2,065	54,639	1,105	61,325
55–64	1,135	48,736	545	71,173
65–69	100	57,214	155	55,366

Source: Special tabulation prepared by Statistics Canada and derived from the 2011 census (National Household Survey).

Notes:

- NOC, (National Occupation Classification), is the Canadian equivalent of SOC, (Standard Occupational Classification), used in the United States.
- The figures represent “full-time, full-year” data, reflecting the average income for males who worked at least 30 hours per week, and at least 49 weeks of the year.
- The “storekeepers and partspersons” figures reflect Canada-wide earnings for males, who reported that their highest level of education was an apprenticeship or trades certificate/diploma.
- The “drafting technologists and technicians” figures reflect Canada-wide earnings for males, who reported that their highest level of education was a college-level certificate from a program of more than two years.

obtained if he had become a partsman in an automobile dealership.

Subsequently, however, a number of studies cast doubt on Goldsmith and Veum’s findings. Both Zangelidis (2008), and Kambourov and Manovskiⁱⁱ (2009) found evidence to suggest that occupation is much more important than industry. Zangelidis concluded, for example, that “[o]ccupational experience is expected to make an important contribution in determining wages...[whereas the] evidence on industry specificity... is not very supportive.” (p.439) And Kambourov and Manovskiⁱⁱ (2009) concluded that “[j]ob tenure in an indus-

try has a very small impact on wages once the effect of occupational experience is accounted for.”(p. 64)

The findings from these two studies suggest that if the plaintiff has not yet started a new post-accident job (and, hence, the wage at that job is not known), it may be appropriate to assume that she will begin that new job at an “entry-level” wage if she has re-trained for a new occupation (regardless of whether she remains in the same industry she was employed in before the accident); and will begin at a wage commensurate with others of her calendar age *only if* she has *not* changed occupations.

Hence, contrary to Goldsmith and Veum's findings, these studies suggest that the 45-year old welder who retrain as a partsman will begin her new career at the earnings of a partsman at the start of her career.

Finally, two recent studies have asked whether the impact of retraining is a function of the worker's initial occupation. For example: will craftsmen suffer a greater income loss if they are forced to change occupations than will salespeople? Sullivan (2010), using detailed information from the National Longitudinal Survey of Youth (NLSY), found that changes of occupation and industry each had significant negative effects on the earnings of professional workers and clerical workers; that changes in occupation, but not industry, had negative effects on craftsmen and service workers; and that changes in industry, but not occupation, had negative effects on managers, salespeople, and laborers.

All of these studies imply that the reduction in earnings is likely to be greater, the greater is the difference between the tasks performed in the worker's previous job and those in his or her new job - especially if the individual had initially been in a high-skill occupation, such as a professional or craftsman. As a first approximation, therefore, the empirical literature suggests using the earnings of individuals in entry-level jobs when estimating the starting income of an individual who has been forced to retrain, regardless of that individual's calendar age. Of course, this recommendation will have to be modified when information specific to the plaintiff is found to be inconsistent with the statistical data presented here.

Christopher Bruce is the President of Economica; he has a PhD in economics from the University of

Derek Aldridge has been a consultant with Economica since 1995 and has a master of arts degree in economics from the University of Victoria.

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1660, 700 – 4th Avenue SW
Calgary, AB T2P 3J4
Phone: (403) 297-0012
www.economica.ca

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