INSTITUT C.D. HOWE INSTITUTE
Essential Policy Intelligence | Conseils indispensables sur les politiques

E-BRIEF

September 24, 2013

SOCIAL POLICY

Absent With Leave: The Implications of Demographic Change for Worker Absenteeism

by
Finn Poschmann and Omar Chatur

- Over the past 30 years, sick days have risen in Canada's workforce, overall, raising important questions about why days lost owing to reported illness are climbing, and how demographic and institutional change may have affected reported rates and may do so in the future.
- The data show striking differences in absentee-rate trends based on age, sex, and union status.
- Days lost owing to illness vary across age groups: as the demographic weight of Canada's population shifts from younger to older categories, reported days lost rise. Absence rates for female versus male workers of all ages and types have diverged over the course of the last few decades, with females taking more days off and men's rate showing little change.
- Public-sector employees report more workplace absences than do private-sector employees. Workers in unionized settings take more sick leave days than those in non-union settings.
- Workplaces and government practices and policies must adjust to these realities, through a combination of accommodation, flexibility and planning.

Marie-Claire has decided to call in sick. Her kindergarten child has a fever and must stay at home, but she has already used up her personal leave days at work, caring for her children and her aging parents.

James had successful heart surgery. With no short-term disability plan at work, he used his entire

The authors thank Benjamin Dachis for extensive regression work reflected in the discussion below, as well as colleagues and anonymous reviewers who provided helpful comments on earlier drafts. Responsibility for any remaining errors rests with the authors.

allotment of sick leave, personal days and vacation time for his recovery – and the year has many months to go.

Laura is a primary teacher who can no longer bank sick days from year to year. With the school year-end approaching, she grabs her last sick days while she can, sick or not – and the school board's substitute teaching expense rockets up.

The situations of our fictional Canadians reveal some of the factors that are driving up absence rates in the workforce, and will continue to put upward pressure on days lost to illness in the future. A closer examination of the reasons for this trend reveals broad forces at work and striking differences in absence rates, based on age, sex, and union status.

Federal policymakers recently drew attention to differing rates of absenteeism, mostly owing to reported illness, among employees in the public and private sectors.[1] Public-sector employees report more workplace absences than do private-sector employees. In this analysis, we show that the largest divergence, however, is between unionized and non-unionized employees. Further, absence rates for female versus male workers of all ages and types have diverged over the course of the last few decades.[2, 3] The main driver of the divergence in absence rates, the data suggest, is the rising prevalence of females, relative to males, who report absences from the workplace. The figure for females was 6.4 days per worker per year in 1987, which closely matched the 6.5 days for males that year. Male absence rates remained steady (6.5 days in 2011), but female rates had increased to an average of 9.5 days by 2011.[4]

Why should this be so? The key reasons seem to be changes in labour-force composition, demographic ageing, and institutional change. In a given year, females book off more days than males owing to illness or disability, but so too do older workers book off more than younger, unionized workers than non-unionized, and to a lesser extent public-sector workers than private-sector.

There are explanations for the rising absentee rate for females relative to males. Owing to a wave of female labour-force participation beginning in the 1960s, female representation within the labour force has aged relative to that of males; further, females, more so than males, have selected unionized and public-sector occupations. Taken together, demographic ageing and the rise in female labour force participation in the unionized sector largely explain the rising rate of aggregate workplace absences – perhaps in concert with social and family demands, in part owing to rising employment among single parents.[5]

1 Treasury Board of Canada Secretariat 2013.

2 Workers defined as those employed in the labour force, aged 15 – 64 years. The public-sector universe in this review reflects federal, provincial, and municipal employees, and hence is broader than that used in the Treasury Board of Canada's analysis.

3 The data include absences owing to disability, however the number of reported absences owing to disability are few and do not meaningfully affect the results; accordingly, throughout this document, the word "illness" refers to "illness or disability" as reported in the Labour Force Survey. Days reported absent owing to family responsibility or maternity or paternity leave are excluded from these data; maternity leave, until 1997, was included in the "personal or family responsibility" category, and subsequently excluded altogether. Vacation time is also excluded from the data discussed here.

4 Statistics Canada CANSIM Table 279-0032, accessed June 14, 2013.

5 Some readers of an early draft raised the issue of absence owing to mental illness. The absence data do not allow segregating such an impact, nor is it clear why the incidence of it – or whether it is reported among other illnesses or reported as leave for personal or family responsibilities – might have changed over the sample period.

Workplace practices and policies must adjust to these demographic facts, through a combination of accommodation (such as leave and short-term absence arrangements), flexibility, and planning. Suitable personal and family leave provisions may take pressure off employees to record days as sick when family responsibilities dominate, as when ageing workers find themselves providing care both for parents and for children. Lining up expectations on the part of employees and employers may limit unplanned and unwanted spillover of reported absences from one category to another, aiding in work and family scheduling and financial planning.

Demographic Drivers: What the Data Say

A quarter-century of data reveals the impacts of population ageing. Days lost, owing to illness, vary across age groups: as the demographic weight of Canada's population shifts from younger to older categories, reported days lost rise. To see how, consider Table 1A, which shows days lost to reported illness, per worker per year, by age and sex. Males aged 45-54, for example, report an average of 1.3 more days lost due to illness than do males 35-44. As the proportion of males in older age categories, relative to younger ones, has risen post-babyboom, the overall average and aggregate number of days lost to illness or disability has likewise risen.[6]

The change is striking in the case of females, owing to long-term changes in female as distinct from male labour force participation. In the early 1950s, less than one-quarter of the adult female population was in the active labour force; by 1980 the share had doubled.[7] That means the average age of females in the labour force has risen at a faster rate than the overall, post-babyboom, population age has risen.

The sectoral impact, which reveals institutional factors such as leave policies and union status, is just as striking and poignantly so, even in the past 15 years (Table 1B). Over time, within each age category (column) other than the youngest, the female-to-male employment ratio has increased. Employed females are ageing, in the demographic sense, more rapidly than employed males, and relatively more of them now work in the unionized and public sectors.

Isolating the Impact of Ageing

To isolate the impact of ageing from other institutional or behavioural factors, one can freeze – set as a baseline – the employee absence rates at their beginning-of-period levels, and estimate how many days would be booked off in later years if there was no change other than population ageing. This allows a calculation as illustrated in Figure 1, which shows the rise in average days lost per year, per worker, by sex, all ages, owing to demographic ageing since 1987.

Accounting for normal ageing processes allows a look at the change in absence rates explained by factors other than ageing, indicated by the dashed lines in Figure 2. Such factors may include institutional change and behavioural change, some of it linked indirectly to population ageing, such as absences to provide elder care or child care or both, in circumstances where explicit personal or family leave provisions do not exist or have been

6 Absence rates are strongly associated with length of job tenure; on an aggregate basis, age and job tenure likely reflect undistinguishable characteristics; in what follows, the discussion refers only to age.

7 Statistics Canada 1999, CANSIM Table 282-0002, accessed July 24, 2013, and Statistics Canada, Table D146-159, accessed July 24, 2013.

Table 1A: Average Days Lost Per Worker Due to Illness, 1987 – 2012

	20 to 24	25 to 34	35 to 44	45 to 54	55 to 64	All Ages*
			Males			
1987 – 1992	4.8	5.1	6.0	7.8	11.8	6.5
1992 – 1997	3.7	4.4	5.4	6.4	10.0	5.6
1997 – 2002	4.3	4.6	5.8	7.0	9.7	6.0
2002 – 2007	5.2	5.5	6.3	7.3	10.0	6.7
2007 – 2012	4.9	4.9	5.9	7.3	10.1	6.6
			Females			
1987 – 1992	4.8	6.2	7.5	8.8	11.7	7.2
1992 – 1997	3.9	5.6	6.9	8.2	11.6	6.8
1997 – 2002	5.0	6.4	8.2	9.4	11.3	8.0
2002 – 2007	5.8	7.7	9.1	9.8	12.3	9.0
2007 – 2012	5.7	8.2	9.1	10.5	12.9	9.5

* Averages for 'All Ages' are weighted by age group based on labour force data taken from Statistics Canada table 282-0002.

Sources: Compiled from Statistics Canada CANSIM Table 282-0002, accessed June 5, 2013, and Statistics Canada CANSIM Table 279-0032, accessed June 5, 2013.

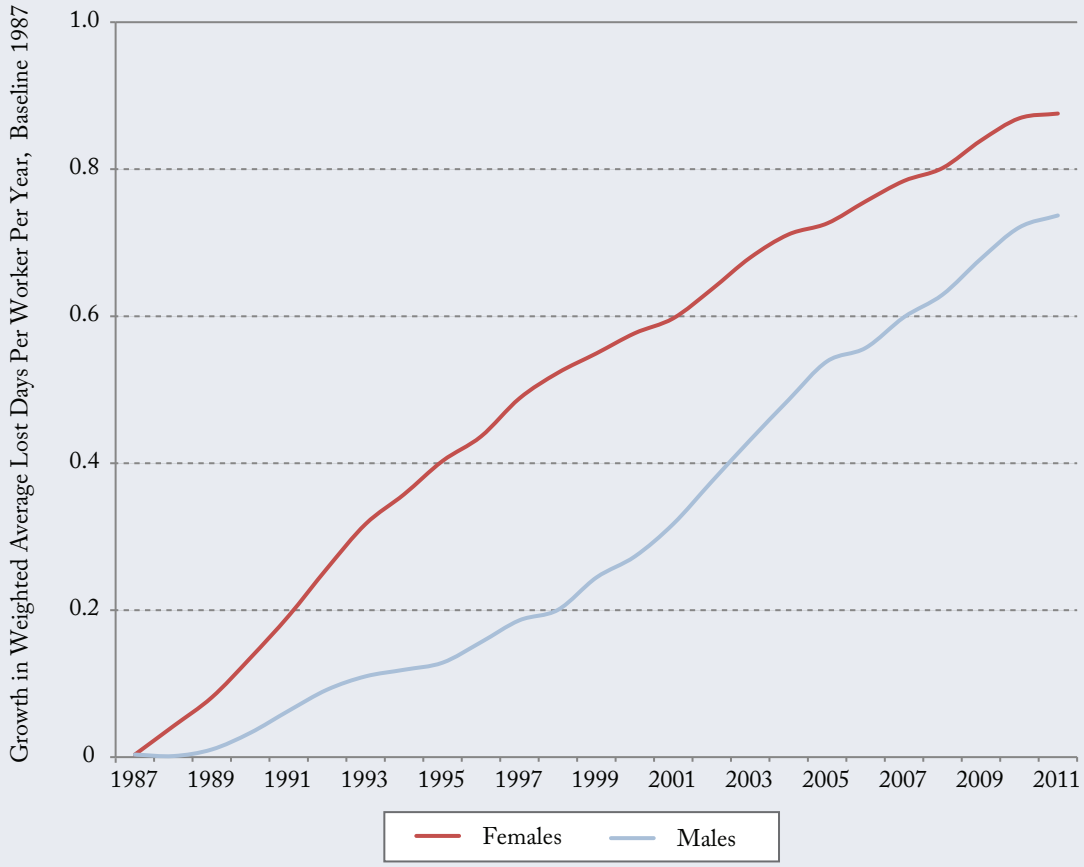
Table 1B: Ratio of Female to Male Employees by Employee Type, 1997 – 2012

	15 to 24	25 to 44	45 to 54	55 to 64	All Ages**
Ratio of Female to Male Unionized Employees					
1997 – 2002	0.77	0.90	0.88	0.73	0.86
2002 – 2007	0.84	0.98	0.98	0.87	0.95
2007 – 2012	0.85	1.08	1.06	1.05	1.05
Ratio of Female to Male Public-Sector Employees					
1997 – 2002	1.52	1.53	1.31	1.16	1.42
2002 – 2007	1.65	1.66	1.52	1.34	1.57
2007 – 2012	1.62	1.71	1.59	1.51	1.62
Ratio of Female to Male Public-Sector, Unionized Employees					
1997 – 2002	1.69	1.55	1.35	1.22	1.45
2002 – 2007	1.65	1.66	1.52	1.34	1.57
2007 – 2012	1.62	1.71	1.59	1.51	1.62

**Ages 15 years and older.

Sources: Compiled from Statistics Canada CANSIM Table 282-0078, accessed August 12, 2013 and Statistics Canada CANSIM Table 282-0078, accessed August 9, 2013.

Figure 1: Rise in Lost Days Per Worker, Illness, Owing to Demographic Ageing



Sources: Compiled from Statistics Canada CANSIM Table 282-0002, accessed June 5, 2013, and Statistics Canada CANSIM Table 279-0032, accessed June 5, 2013.

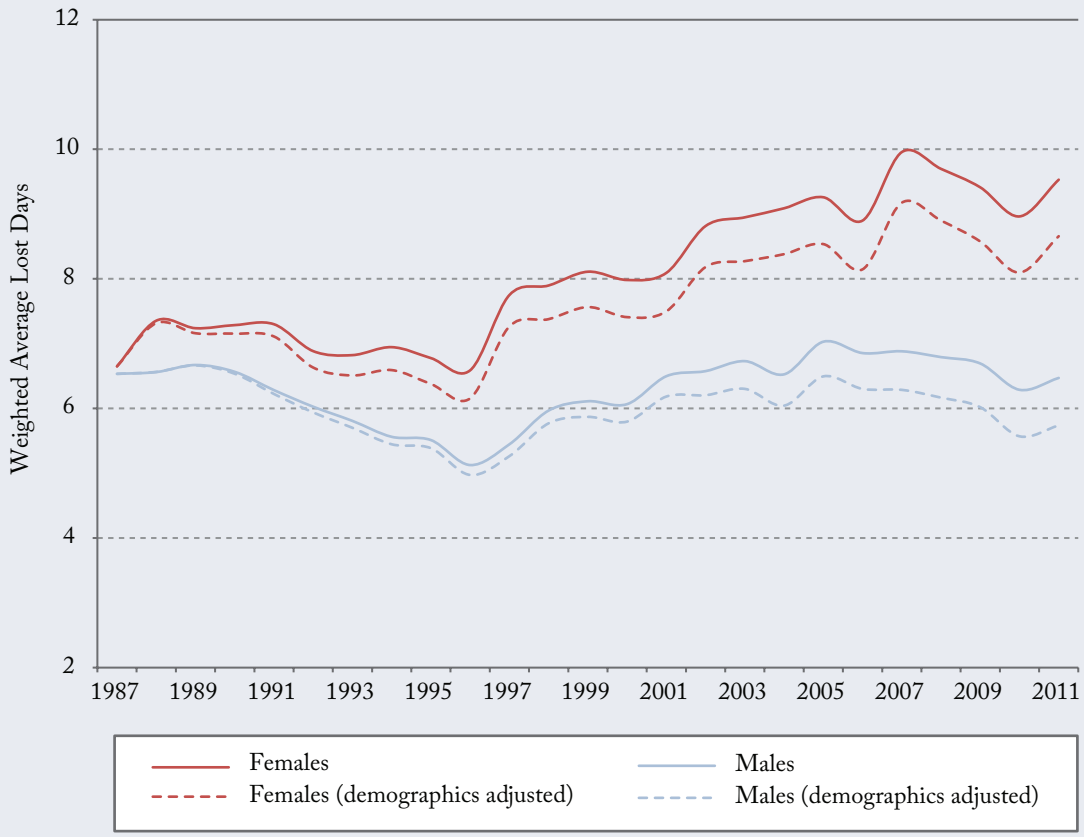
exhausted.[8] For females, the rise in non age-related days lost, over the period examined, amounts to almost two days per worker per year.

Institutional Factors

One of the most striking features of Statistics Canada's worker absence data is the divergence among workers who are employed in union settings and those who are not. The average number of days lost for nonunionized

8 Employees who face family-related exigencies, and who have exhausted available personal leave time and who do not have the flexibility to shift vacation time may attribute absence to illness. Evaluating the extent to which this occurs would depend on the accuracy with which respondents report absences in the Labour Force Survey and matching them to employer payroll data, which is not possible.

Figure 2: Lost Days Per Worker, Illness, by Sex



Sources: Compiled from Statistics Canada CANSIM Table 282-0002, accessed June 5, 2013, and Statistics Canada CANSIM Table 279-0032, accessed June 5, 2013.

workers, all ages and both sexes and over the 1997–2011 period, averages 5.6, whereas the number of days lost in unionized settings averages 10.8 per year.[9]

The data uncover a stark point: workers in unionized settings take more sick leave days than those in non-union settings. Policy change also matters: if employers reduce contractual "banking" provisions for leave entitlements, employees will seek to exhaust them before their access to them expires (Rushowy 2013).

The numeric impact of unionization on aggregate days lost, to illness or disability, depends on the union coverage ratio: the share of workers who are employed in unionized settings. Institutional change, in this case meaning change in the scope of union coverage, will change reported, aggregate absence rates. In recent

9 Authors' calculations; Statistics Canada CANSIM Table 279-0032, accessed June 14, 2013.

decades, private-sector union coverage has declined in many countries, including Canada – where the coverage ratio fell from 21.3 percent to 17.7 percent in the 15 past years.[10]

Meanwhile, union coverage in the public sector in Canada has stayed remarkably steady, at about 75 percent. The aggregate, revealed impact of union coverage also therefore depends on the share of employees in the public versus private sectors. At the end of the 1990s, there were 2.9 public-sector employees for every 10 private-sector workers. As of 2012, the number had risen to 3.2:10 which, other things being equal, as a matter of arithmetic leads to higher average workplace absences.[11]

Analysis based on Labour Force Survey microdata enables further observations (Figures 3a and 3b), which reveal that public-sector unionized employees, over the 1998 – 2012 period, booked an average of 4.9 more days, for illness or disability, than did private-sector nonunionized workers. Controlling for demographic change, and for occupation – which statistically removes from the analysis the potential impact of workplace safety issues and other occupation specific characteristics that affect absence rates – shows striking differences between the absence rates of public- and private-sector workers, differences magnified in the case of unionized versus nonunionized workers (see Appendix for regression details).[12] Demographic adjustment makes the above stark point even starker: the differences persist after accounting for age, sex, interactions between age and sex, and after accounting for occupation.

Changes in Policy

The final category of drivers of changing absence rates is policy change, in particular rules surrounding maximum (or minimum, from a labour regulation perspective) number of allowed sick days available to workers. When workplace policy allows generous sick-leave provisions, employees will be likely to use them, and apparently to a greater degree in unionized settings.

Appropriate personal and family leave provisions reduce the incentives for employees to record days as sick when family needs arise, as they do with respect to ageing parents and young children. Ensuring that such provisions line up, with respect to expectations on the part of employees and employers, will improve planning capacity in the workplace and at home. Another part of the policy response may be to negotiate short-term disability leave provisions, so that the potential loss of banked – and ultimately expensive, from the employer perspective – sick days encounters less resistance to reform among public-sector and unionized employees.

Conclusions

As with glaciers, the recent advance in age among the workforce population is not a force that can be resisted. Age related absences owing to illness – some of which may be in practice be product of family responsibilities – have risen, and will continue to do so. This is economically significant: a rise of one or two days per worker per year, as we have seen among female employees, across the economy, is a large amount of lost time.

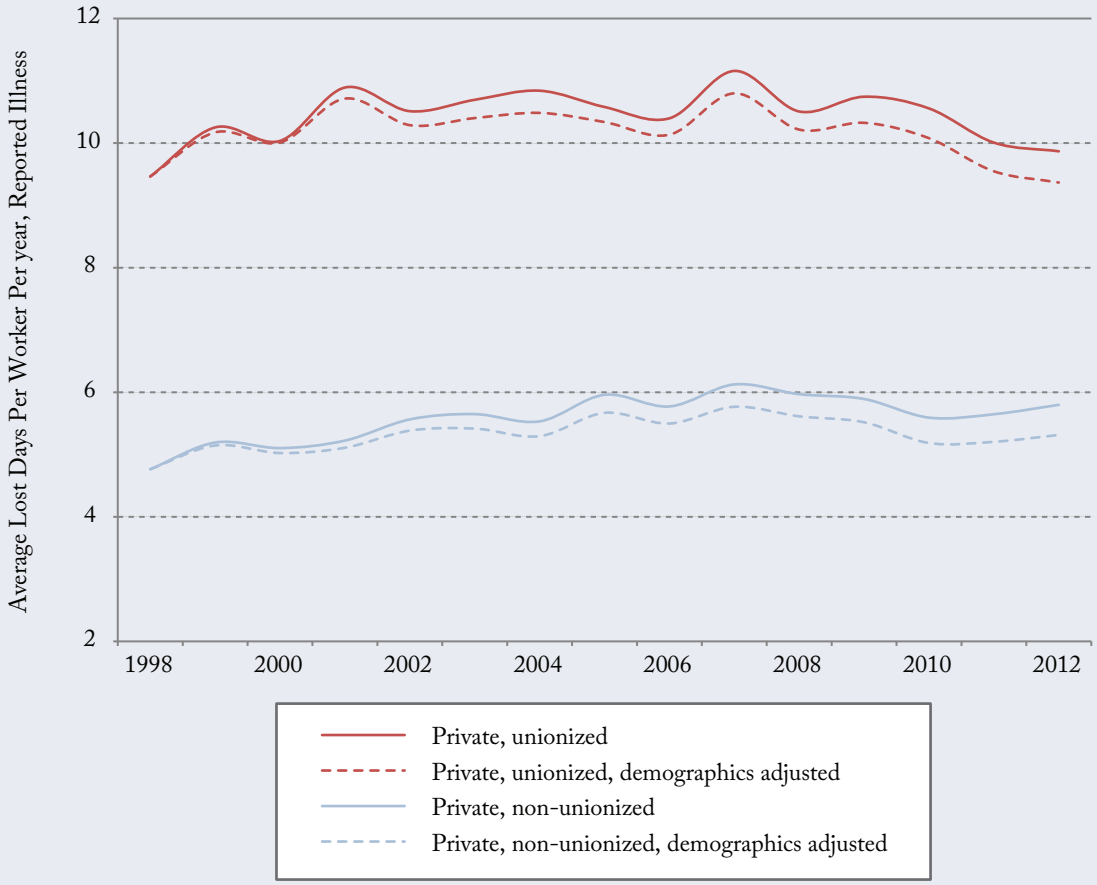
Accordingly, for employees and employers, particularly those in the public and unionized sectors, the implication is that some accommodation and financial planning will be warranted. And it may be in this light that

10 Statistics Canada CANSIM Table 282-0078, accessed June 27, 2013.

11 Ibid.

12 This demographic adjustment rebases to 1998 (previously 1987 in this analysis), owing to Labour Force Survey changes and data availability.

Figure 3A: Lost Days Per Worker, Illness, Private Sector

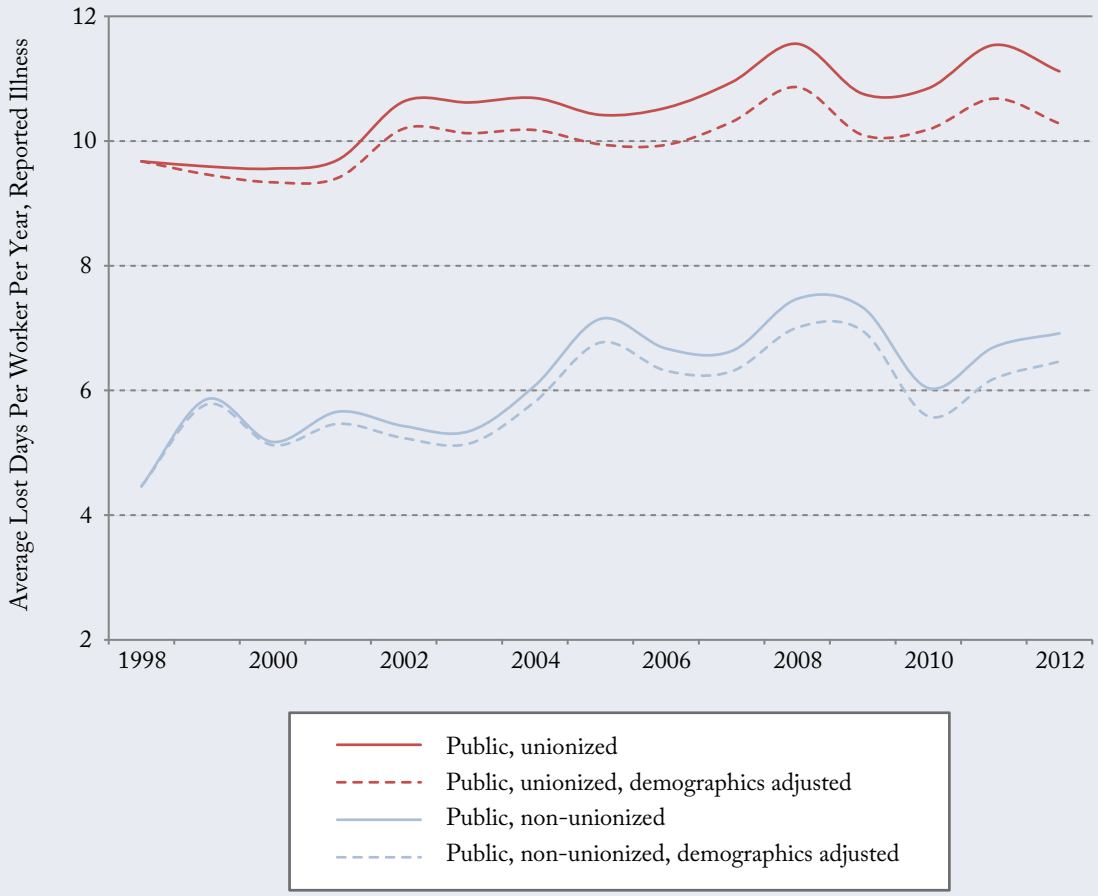


Sources: Authors' calculations, details available on request. Readers should note that there is some limited evidence of colinearity between sector status and union status. This analysis is based on Statistics Canada Labour Force Survey Microdata file, which contains anonymized data collected from the LFS. All computations using these microdata were prepared by the C.D. Howe Institute and the responsibility for the use and interpretation of these data is entirely that of the authors.

the federal government has floated the possibility of short-term disability provisions for its employees, which are rarely offered under either public or private employee benefit plans. This could arguably strike a compromise position regarding sick leave entitlements, without banking thereof, and employee needs (Treasury Board of Canada Secretariat 2013).

In any event, personal, family and sickness leave provisions should be negotiated in a manner that matches the expectations of employees and employers, the better to manage finances, time allocation within the family, and work scheduling, so as to avoid the frictional costs associated with unexpected absences. Demographic ageing will continue to put downward pressure on days of work per employee, and arguably so on their output. Smart policies are required to ameliorate the impact on the economy.

Figure 3B: Lost Days Per Worker, Illness, Public Sector



Sources: Authors' calculations, details available on request. Readers should note that there is some limited evidence of colinearity between sector status and union status. This analysis is based on Statistics Canada Labour Force Survey Microdata file, which contains anonymized data collected from the LFS. All computations using these microdata were prepared by the C.D. Howe Institute and the responsibility for the use and interpretation of these data is entirely that of the authors.

Appendix A

The data source is Statistics Canada's Labour Force Survey Public Use Microdata File, which contains anonymized individual response data collected from the survey. All computations using these microdata were prepared by the C.D. Howe Institute and responsibility for the use and interpretation of these data rests entirely with the authors.

The results described in this report were estimated using an equation that defined days lost per employee per year as follows: we first calculate the share of the total usual hours that a worker is absent in a survey week. We assume that a worker who reports being away for the whole work week has a daily sickness rate of one. We calculate the sickness rate of workers who report a partial weekly sickness absence as the number of hours absent from work as a share of their usual weekly hours. We then multiply the sickness rate of each employee by 250 – the usual number of work days for a full-time employee in a year – to generate the average number of sick days for that worker. We limit our analysis to full-time employees, dropping those who report being self-employed, not employed or working part-time. We drop the few observations that would result in more than 250 sick days per year, which are those who report that they were sick from work for more than their usual weekly hours.

We then regress our estimate of the number of sick days per year of each individual respondent on control variables for each respondent. The control variables include age, sex, controls for the month of year, a term for age and sex interaction – because male and female absence profiles differ with age – and occupation, union status and public- or private-sector employer status.

Descriptive statistics for the key variables, with standard errors, appear in Table A-1, along with summary data for the regression. We run the regressions using population weights reported by Statistics Canada to represent the monthly composition of the Canadian labour force from 1998 through 2012.

Table A1: Regression of Total Sick Days per Employee per Year

Control Variables	**Dependent Variable** *Total sick days per employee per year*
Relative to private, non-union employee	
Public sector, unionized	4.933*** [0.00377]
Private sector, unionized	3.653*** [0.00356]
Public sector, non-unionized	1.311*** [0.00545]
Constant	-0.333*** [0.0186]
Other controls (coefficients not reported)	Survey month, occupation, age group, sex, age group and sex interaction
Observations (Weighted pooled sample of Canadian labour force, 1998-2012)	997,281,408
R-squared	0.010

Notes: Standard errors in brackets, *** p<0.01. Source: Authors' calculations from Statistics Canada.

References

Rushowy, Kristin. 2013. "Teacher Sick Days Rising as End of School Year Nears." *Toronto Star*, June 5.

Statistics Canada. *Table 279-0032 Absence rates of full-time employees, by sex and age group, Canada, annual* (table). CANSIM (database). Last updated July 23, 2012. http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&p2=33&id=2790032 (accessed June 5, 2013).

———. *Table 279-0035 Absence rates of full-time employees, by sex and public and private sector, Canada, annual* (table). CANSIM (database). Last updated July 23, 2012. http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&p2=33&id=2790035 (accessed June 14, 2013).

———. *Table 279-0039 Absence rates of full-time employees, by sex and union coverage, Canada, annual* (table). CANSIM (database). Last updated July 23, 2012. http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&p2=33&id=2790039 (accessed June 14, 2013).

———. *Table 282-0002 Labour force survey estimates (LFS), by sex and detailed age group, annual* (table). CANSIM (database). Last updated January 3, 2013. http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&p2=33&id=2820002 (accessed June 6, 2013).

———. *Table 282-0078 Labour force survey estimates (LFS), employees by union coverage, North American Industry Classification System (NAICS), sex and age group, annual* (table). CANSIM (database). Last updated January 3, 2013. http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&p2=33&id=2820078 (accessed June 27, 2013).

Treasury Board of Canada Secretariat. 2013. *Minister Clement to Modernize Disability Management in the Public Service*. June 10. Available at http://www.tbs-sct.gc.ca/media/nr-cp/2013/0610-eng.asp

This E-Brief is a publication of the C.D. Howe Institute.

Finn Poschmann is Vice President, Research, at the C.D. Howe Institute.

Omar Chatur is a Policy Consultant at the C.D. Howe Institute.

This E-Brief is available at www.cdhowe.org.