Catalogue 11-001-XIE (Français 11-001-XIF) ISSN 0827-0465

The Daily

Statistics Canada

Tuesday, January 16, 2007
Released at 8:30 a.m. Eastern time

Releases

New products

Releases

Study: Earnings losses of displaced workers

1988 to 1997

High-seniority employees who lost their job during the 1990s as a result of firm closures and mass layoffs suffered substantial losses in earnings, even five years after they were displaced, according to a new study.

The study found that, five years after being displaced, workers who lost their job through firm closures and mass layoffs experienced average earnings losses that represented at least 9% of their pre-displacement earnings. Losses incurred by workers with substantial seniority were more pronounced.

Five years after they lost a job, male workers who had at least five years of seniority and found another job experienced losses that represented between 18% and 28% of the earnings they received before their job loss.

For their female counterparts, the losses ranged between 24% and 26% of their pre-displacement earnings.

In 2000 dollars, the average loss in earnings for high-seniority males five years after losing their job varied between $7,100 and $10,900. The corresponding range for women was between $5,500 and $6,100.

The study examined the earnings trajectories of workers who lost their job in the private sector between 1988 and 1997 as a result of firm closures or mass layoffs, and who were aged 25 to 49 at the time.

In any given period, regular economic activity leads to resource reallocation resulting from technological changes, changes in trade patterns and consumer preferences, and numerous other factors.

While such resource reallocation is generally thought to have overall beneficial effects, leading to increased productivity and living standards, it can expose some workers to job losses.

Previous research from the United States has shown that job displacement due to mass layoffs leads to substantial earnings losses, especially among high-seniority workers. For many of these workers, job displacement implies earnings losses that persist several years after displacement.

This study examines for the first time whether this conclusion also holds in Canada.

The study showed that significant losses in earnings occurred among both high-seniority employees who were displaced from manufacturing firms, as well as their counterparts laid off from service-producing companies.

Note to readers

This release is based on the research paper "Earnings losses of displaced workers: Canadian evidence from a large administrative database on firm closures and mass layoffs," available today.

The study quantifies the loss in earnings experienced by Canadian workers who lost a job in the private sector between 1988 and 1997 as a result of firm closures or mass layoffs, and who were aged 25 to 49 at the time. Their earnings up to five years after such job loss (up to 2002) were studied. Data came from Statistics Canada's Longitudinal Worker File.

Mass layoffs are defined as permanent layoffs taking place in firms that: a) had at least 50 employees four years before the occurrence of layoffs, and b) experienced a drop in employment of 30% or more between the fourth year preceding the occurrence of layoffs and the year following these.

Permanent layoffs, in turn, are defined as layoffs that occur when an employee does not return to his former employer in the year during which job loss occurred or in the following year.

Displaced workers are defined as employees who are permanently laid off as a result of firm closures or mass layoffs.

On average, 7.1 million workers aged 25 to 49 were employed in the private sector each year between 1988 and 1997. During that period, 457,000 workers were permanently laid off each year, on average. This study focuses on the 20% of these (94,000 workers, on average) who lost their job as a result of firm closures or mass layoffs.

The release contains data applying to displaced workers who had positive earnings in all five years after they lost their jobs. All conclusions hold when displaced workers are allowed to have no earnings at some point after displacement.

High-seniority displaced workers are defined as employees who had at least five years of seniority with their employer at the time of displacement. Long-term earnings losses are those experienced five years after displacement.

The numbers shown in this release are expressed in 2000 constant dollars, using the Consumer Price Index as a deflator.

The study's findings also suggest that labour market conditions were a key determinant of the magnitude of the losses experienced by displaced workers.

Loss in earnings substantial and persistent

The study focused on workers involved in firm closures or mass layoffs that occurred in companies that had been operating for at least five years. Using this narrow definition of worker displacement, it estimated that, on average, 94,000 workers aged 25 to 49 were displaced each year during the 1988-to-1997 period.

This represents 1.3% of the 7.1 million workers in that age group who were employed in the private sector (on average) during that period.

Workers displaced through firm closures or mass layoffs suffered earnings losses that not only were substantial but also persisted several years after displacement.

In the year during which they were displaced, men and women in this age group suffered losses in earnings ranging between $5,500 and $6,900.

Five years after they were laid off, they had recovered some, but not all of these losses. At this point, their average losses varied between $2,300 and $4,800, representing between 9% and 21% of their pre-displacement earnings.

Among high-seniority displaced workers, the losses were more substantial.

In the year in which they lost their job, men and women with high seniority experienced a loss in earnings that ranged between $7,900 and $13,000. Five years later, these losses on average ranged between $5,500 and $10,900.

On average, 12,000 high-seniority male and female employees aged 25 to 49 were displaced each year through firm closures or mass layoffs between 1988 and 1997.

Earnings losses were widespread

High-seniority displaced workers from different industries and firms of diverse sizes suffered substantial earnings losses. However, losses in earnings did not vary widely by industry, at least for men.

For instance, average long-term earnings losses of high-seniority males displaced from manufacturing companies represented between 20% and 31% of their pre-displacement earnings.

Those experienced by their counterparts laid off from service-producing firms were very similar, both in absolute and relative terms. Their losses represented 17% to 30% of their earnings received prior to job loss.

Workers displaced from firms employing more than 100 workers had significant losses, as did their counterparts laid off from smaller companies.

High-seniority women displaced from the smaller firms incurred long-term losses representing about 26% of their pre-displacement earnings.

Those displaced from larger companies displayed long-term losses that represented 22% to 25% of pre-job-loss earnings.

Earnings losses varied with labour market conditions

Losses in earnings differed markedly depending on the period during which job losses occurred.

Workers displaced between 1987 and 1992 suffered much bigger losses in earnings than their counterparts who lost their job between 1993 and 1997. This was largely due to the recessionary period during the early 1990s.

Long-term earnings losses of high-seniority males who were displaced between 1987 and 1992 averaged roughly $11,300. This was almost twice the losses of about $6,100 incurred by men laid off between 1993 and 1997.

Similarly, long-term earnings losses of high-seniority females who were laid off between 1987 and 1992 averaged roughly $11,000. This was more than double the losses of about $5,100 suffered by their counterparts displaced between 1993 and 1997.

Employment opportunities were much better during the late 1990s than during the early 1990s, when the economy went through a recession. These results suggest that the degree to which workers' earnings recover after displacement is strongly influenced by labour market conditions.

The research paper "Earnings losses of displaced workers: Canadian evidence from a large administrative database on firm closures and mass layoffs" is now available as part of the *Analytical Studies Branch Research Paper Series* (11F0019MIE2007291, free) from the *Publications* module of our website.

Related studies from the Business and Labour Market Analysis Division can be found at *Update on analytical studies* (11-015-XIE, free) on our website.

For further information or to enquire about the concepts, methods or data quality of this release, contact René Morissette (613-951-3608), Xuelin Zhang (613-951-4295) or Marc Frenette (613-951-4228), Business and Labour Market Analysis Division.

□

Worker displacement in the private sector, 1988 to 1997[1]

	Men	Women	Men and women
	number		
Average number of employees	3,956,000	3,117,000	7,073,000
Average number of permanent layoffs	322,000	135,000	457,000
Average number of permanent layoffs due to firm closures or mass layoffs	68,000	26,000	94,000
Average number of permanent layoffs due to firm closures or mass layoffs, among high-seniority employees	8,000	4,000	12,000

1. Employees aged 25 to 49 employed outside public services in firms with at least 2 employees. High-seniority employees have at least five years of seniority with their employer. Mass layoffs are those occurring in firms that have been operating for at least five years.

■

Research and development personnel

1995 to 2004

Researchers comprised nearly two-thirds of all personnel involved in research and development (R&D) in 2004, and the overwhelming majority of them were natural science researchers.

Researchers also formed the largest category of R&D personnel in business enterprises, higher education institutions and federal and provincial governments.

Just over 199,000 full-time equivalent personnel were engaged in R&D activities in 2004, up 5.0% from 189,520 in 2003. These included researchers, technicians and other support staff.

This level represented an increase of more than one-third between 1995 and 2004. Much of this growth was the result of a gradual increase in R&D spending by business enterprises after a slump in 2002.

About 63%, or 125,330 of the R&D personnel were researchers, a 5.4% increase from 2003. This gain accounted for two-thirds (68%) of the total increase in R&D personnel.

About 64% of R&D personnel were employed in business enterprises in 2004, compared with 28% in universities, and 7% in the federal government sector.

The higher education sector employed about 54,730 R&D personnel, up 5.5% from 2003. Since 2002, the number of R&D personnel in higher education institutions in Canada has grown slightly faster than in many Organisation of Economic Co-operation and Development countries.

Ontario accounted for 45% of all R&D personnel in the country, followed by Quebec, with 31% of the total. British Columbia was a distant third with 10%, and Alberta fourth with 7%. This reflects the pattern of spending on R&D in Canada.

About 64% of R&D personnel in Newfoundland and Labrador were employed in the higher education and private non-profit sectors, as were 51% in Nova Scotia and 50% in New Brunswick. This is related to the dominant role universities in these provinces play in R&D.

On the other hand, the vast majority of R&D personnel in other provinces were employed in the business sector, for example, 70% in Quebec, 67% in Ontario and 62% in British Columbia.

Definitions, data sources and methods: survey numbers, including related surveys, 4201, 4204, 4208, 4209, 4210, 4212 and 5109.

The article "Research and development personnel" is now available in the service bulletin *Science Statistics*, Vol. 31, no. 1 (88-001-XWE, free) from the *Publications* module of our website.

For more information, or to enquire about the methods, concepts or data quality of this release, contact Gisèle Bellefeuille, (613) 951-7113, (*gisele.bellefeuille@statcan.ca*) or Louise Earl, (613) 951-2880 (*louise.earl@statcan.ca*), Science, Innovation and Electronic Information Division. ■

Standard Geographical Classification

2006

The complete version of the 2006 *Standard Geographical Classification* (SGC) is now available.

The SGC is a classification of geographical areas used to collect and disseminate statistics. The 2006 edition replaces the 2001 edition as the official classification for geographical areas for the 2006 Census and other Statistics Canada surveys.

The SGC is organized in two volumes: *Volume I, The Classification* and *Volume II, Reference Maps*.

Volume I contains tables of the names and codes of standard geographical classification units, organized by province and territory and by metropolitan area, and is available in PDF and HTML formats. A preliminary version was released in October 2006. The final version contains additional tables as well as concordances between SGC 2001 and SGC 2006.

Volume II contains reference maps showing boundaries, names, codes and locations of the geographical areas in the classification. The reference maps show census subdivisions, census divisions, census metropolitan areas, census agglomerations, and economic regions. In October 2006, the maps were released in PDF format and made available for free on our website. As of today, Volume II is also available in paper format.

For more information on the 2006 *Standard Geographical Classification, Volume I, The Classification* (12-571-XWE, free) or *Standard Geographical Classification, Volume II, Reference Maps* (12-572-XPB, $135), contact Richard Fortin (613-951-3445; *standards@statcan.ca*), Standards Division. ■

Census tract and dissemination area reference maps

2006 Census

Census tract and dissemination area reference maps for the 2006 Census are now available. Individual maps and reference guides can be downloaded free of charge in PDF format from our website.

These reference maps are organized into four series.

The series *Census Tract Reference Maps, by Census Metropolitan Areas or Census Agglomerations* (92-146-XIB, free) displays census subdivisions and census tracts for all 33 census metropolitan areas and the 15 census agglomerations that are part of the census tract program.

The dissemination area reference maps are comprised of three series which combined represent all of Canada. Each series covers a distinct type of area.

The series *Dissemination Area Reference Maps, by Census Tracts, for Census Metropolitan Areas and Census Agglomerations* (92-147-XIB, free) presents the 33 census metropolitan areas and the 15 census agglomerations that are part of the census tract program. Each map covers one census tract, and displays the boundaries and codes for dissemination areas.

The series *Dissemination Area Reference Maps, by Non-tracted Census Agglomerations* (92-148-XIB, free) presents the 96 census agglomerations that are not part of the census tract program. Each map covers one census agglomeration, and displays the boundaries and names of census subdivisions and boundaries and codes for dissemination areas.

The series *Dissemination Area Reference Maps, by Census Subdivisions, for areas outside Census Metropolitan Areas and Census Agglomerations* (92-145-XIB, free) presents areas outside census metropolitan areas and census agglomerations. Each map covers one census subdivision, and again displays the boundaries and codes for dissemination areas.

Definitions, data sources and methods: survey number 3901.

On March 13, 2007, three series, 92-146-XIB, 92-148-XIB and 92-145-XIB will be reissued with additional boundaries for urban areas and designated places.

For more information, or to enquire about the concepts, methods or data quality of this release, contact Geo-Help (613-951-3889; *geohelp@statcan.ca*), Geography Division. ■

Supply and disposition of refined petroleum products

September 2006

Data on the supply and disposition and domestic sales of refined petroleum products are now available for September.

Available on CANSIM: tables 134-0001 to 134-0004.

Definitions, data sources and methods: survey number 2150.

The September 2006 issue of *The Supply and Disposition of Refined Petroleum Products in Canada*, Vol. 61, no. 9 (45-004-XWE, free) is now available from the *Publications* module of the website.

For more information, or to enquire about the concepts, methods or data quality of this release, contact Manufacturing, Construction and Energy Division, Marketing and Dissemination Section, 613-951-9497 or toll free at 1-866-873-8789; (*energ@statcan.ca*). ■

New products

Analytical Studies Branch Research Paper Series: "Earnings losses of displaced workers: Canadian evidence from a large administrative database on firm closures and mass layoffs", no. 291
Catalogue number 11F0019MIE2007291
(free).

Standard Geographical Classification, Volume I, The Classification, 2006
Catalogue number 12-571-XWE
(free).

Standard Geographical Classification, Volume II, Reference Maps, 2006
Catalogue number 12-572-XPB ($135).

The Supply and Disposition of Refined Petroleum Products in Canada, September 2006, Vol. 61, no. 9
Catalogue number 45-004-XWE
(free).

New Motor Vehicle Sales, November 2006, Vol. 78, no. 11
Catalogue number 63-007-XWE
(free).

Science Statistics: "Research and development personnel", Vol. 31, no. 1
Catalogue number 88-001-XWE
(free).

Dissemination Area Reference Maps, Reference Guide, Census year 2006
Catalogue number 92-145-GWE
(free).

Dissemination Area Reference Maps, by Census Subdivisions, for areas outside Census Metropolitan Areas and Census Agglomerations, Census year 2006
Catalogue number 92-145-XIB
(free).

Census Tract Reference Maps, by Census Metropolitan Areas or Census Agglomerations, Reference Guide, Census year 2006
Catalogue number 92-146-GWE
(free).

Census Tract Reference Maps, by Census Metropolitan Areas or Census Agglomerations, Census year 2006
Catalogue number 92-146-XIB
(free).

Dissemination Area Reference Maps, by Census Tracts, for Census Metropolitan Areas and Census Agglomerations, Census year 2006
Catalogue number 92-147-XIB
(free).

Dissemination Area Reference Maps, by Non-tracted Census Agglomerations, Census year 2006
Catalogue number 92-148-XIB
(free).

All prices are in Canadian dollars and exclude sales tax. Additional shipping charges apply for delivery outside Canada.

Catalogue numbers with an -XWE, -XIB or an -XIE extension are Internet versions; those with -XMB or -XME are microfiche; -XPB or -XPE are paper versions; -XDB or -XDE are electronic versions on diskette; -XCB or -XCE are electronic versions on compact disc; -XVB or -XVE are electronic versions on DVD and -XBB or -XBE a database.

How to order products

To order by phone, please refer to:

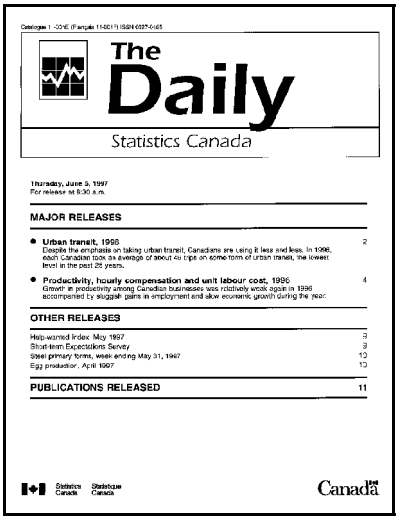
• The title • The catalogue number • The volume number • The issue number • Your credit card number.

From Canada and the United States, call:	**1-800-267-6677**
From other countries, call:	**1-613-951-2800**
To fax your order, call:	**1-877-287-4369**
For address changes or account inquiries, call:	**1-877-591-6963**

To order by mail, write to: Statistics Canada, Finance, 6th floor, R.H. Coats Bldg., Ottawa, K1A 0T6. Include a cheque or money order payable to **Receiver General of Canada/Publications**. Canadian customers add 6% GST and applicable PST.

To order by Internet, write to: *infostats@statcan.ca* or download an electronic version by accessing Statistics Canada's website *(www.statcan.ca).* From the *Our products and services* page, under *Browse our Internet publications*, choose *For sale.*

Authorized agents and bookstores also carry Statistics Canada's catalogued publications.



The Daily

Statistics Canada

Thursday, June 5, 1997
For release at 8:30 a.m.

MAJOR RELEASES

- **Urban transit, 1996** 2
  Despite the emphasis on taking urban transit, Canadians are using it less and less. In 1996, each Canadian took an average of about 40 trips on some form of urban transit, the lowest level in the past 25 years.
- **Productivity, hourly compensation and unit labour cost, 1996** 4
  Growth in productivity among Canadian businesses was relatively weak again in 1996 accompanied by sluggish gains in employment and slow economic growth during the year.

OTHER RELEASES

Help-wanted Index: May 1997	9
Short-term Expectations Survey	9
Steel primary forms, week ending May 31, 1997	10
Egg production, April 1997	10

PUBLICATIONS RELEASED 11

Statistics Canada Statistique Canada

Canada

Statistics Canada's official release bulletin

Catalogue 11-001-XIE.

Published each working day by the Communications Division, Statistics Canada, 10-G, R.H. Coats Bldg., Tunney's Pasture, Ottawa, Ontario K1A 0T6.

To access *The Daily* on the Internet, visit our site at *http://www.statcan.ca.* To receive *The Daily* each morning by e-mail, send an e-mail message to *listproc@statcan.ca.* Leave the subject line blank. In the body of the message, type "subscribe daily firstname lastname".

Published by authority of the Minister responsible for Statistics Canada. © Minister of Industry, 2007. All rights reserved. The content of this electronic publication may be reproduced, in whole or in part, and by any means, without further permission from Statistics Canada, subject to the following conditions: that it be done solely for the purposes of private study, research, criticism, review or newspaper summary, and/or for non-commercial purposes; and that Statistics Canada be fully acknowledged as follows: Source (or "Adapted from", if appropriate): Statistics Canada, year of publication, name of product, catalogue number, volume and issue numbers, reference period and page(s). Otherwise, no part of this publication may be reproduced, stored in a retrieval system or transmitted in any form, by any means—electronic, mechanical or photocopy—or for any purposes without prior written permission of Licensing Services, Client Services Division, Statistics Canada, Ottawa, Ontario, Canada K1A 0T6.