



# The Daily

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## Releases

### Study: Family earnings instability

1986 to 1991 and 1996 to 2001

Families on the whole faced no more instability in their earnings during the late 1990s than their counterparts did during the late 1980s, despite a number of events in the economy that could have signalled otherwise, according to a new study.

Even so, the study did show that government transfers played a significant role in stabilizing the income of families in the lowest levels of the earnings distribution.

Families in the lowest one-third of the earnings distribution experienced much wider percentage earnings fluctuations over six-year periods than those at the top of the distribution, the study found.

However, government transfers, such as Employment Insurance and Social Assistance, and, to a lesser extent, the progressivity of the tax system eliminated much of these differences.

The study assessed whether the employment income of two-parent families became more volatile between two six-year periods: 1986 to 1991 and 1996 to 2001.

The findings showed that overall this was not the case, despite several events in the economy that should have resulted in increased fluctuations.

First, temporary employment grew during that period, especially among newly hired employees. This implied that a growing fraction of employees had no credible guarantees of employment continuity.

Second, hiring rates fell substantially, making it more difficult for laid-off workers to find new jobs.

Third, real wages of newly hired employees dropped markedly, thereby potentially increasing the earnings losses experienced by workers who found a new job after a layoff.

Nevertheless, family earnings instability changed little between the late 1980s and the late 1990s. Between 1986 and 1991, families with a husband aged 25 to 50 saw their earnings fluctuate on average about 14% from the mean. Ten years later, their counterparts faced roughly the same level of fluctuations.

At least two factors may have tended to offset the upward pressures on family earnings instability.

The proportion of two-parent families with two earners rose between the late 1980s and the late 1990s. This meant that for a growing fraction of these families, the risk of job loss was now spread across two earners, rather than being concentrated on a single earner.

#### Note to readers

This release is based on the research paper "The instability of family earnings and family income in Canada, 1986 to 1991 and 1996 to 2001," available today.

The study uses data from Statistics Canada's Longitudinal Administrative Databank to assess whether earnings instability rose between the late 1980s and the late 1990s among two-parent families in Canada.

It also examines the extent to which government transfers and the tax system reduce the differences in income instability between: a) families who are in the bottom third of the earnings distribution and, b) their counterparts located in the top third of the earnings distribution. This analysis is conducted for the 1996 to 2001 period.

The results presented in this release are based on two samples. The first (second) sample consists of couples (married or living in common-law relationships) who have remained intact over the 1982 to 1991 or 1992 to 2001 period, had no self-employment income during that period and in which the husband was aged 25 to 50 in 1986 (1996).

All the qualitative conclusions regarding trends in family earnings instability also hold: a) for broader samples that allow couples to have self-employment income during the 1982 to 1991 or 1992 to 2001 period and, b) for the 1984 to 1989 and the 1994 to 1999 period.

In this release, family earnings instability measures the extent to which the employment income of families deviates from its mean (in percentage terms) over a six-year period. All statistics regarding family earnings instability account for the expected progression of individuals' earnings over time.

For simplicity, the term "husband" is used to refer to married men as well as those living in common-law relationships. The age of the husband refers to their age at the beginning of the period over which earnings instability is measured, i.e., in 1986 or 1996.

Permanent quit rates refer to the percentage of workers who quit their job and do not return to the same employer the following year.

#### Family earnings instability<sup>1</sup>, 1986 to 1991 and 1996 to 2001

Two-parent families with a husband aged <sup>2</sup>	1986 to 1991	1996 to 2001
	%	
25 to 29	15.6	16.8
30 to 34	13.8	14.3
35 to 39	12.9	13.3
40 to 44	13.5	12.9
45 to 50	16.0	15.3
<b>25 to 50</b>	<b>14.2</b>	<b>14.1</b>

1. During the 1986 to 1991 period, families with a husband aged 25 to 29 saw their earnings deviate from its mean by 15.6%, on average.
2. Age at the beginning of the observation period, i.e., 1986 and 1996. Husband includes married men and those in common-law relationships.

Moreover, permanent quit rates fell substantially between the late 1980s and the late 1990s, thereby inducing an increase in job stability during that period. All else equal, these two factors should have tended to lower family earnings instability.

**Families faced no more earnings instability in late 1990s than late 1980s**

Families experienced roughly the same degree of earnings instability during the late 1980s and the late 1990s.

For instance, families with a husband aged 30 to 34 saw their employment income fluctuate from its mean by roughly 14%, both during the 1986 to 1991 period and the 1996 to 2001 period.

In both periods, families in the lowest levels of the earnings distribution had much more unstable employment income than their counterparts at the top of the distribution.

However, Canada's transfer system eliminated most of these differences during the 1996 to 2001 period.

**Family income instability<sup>1</sup>, 1996 to 2001**

Instability in: Two-parent families with a husband aged <sup>2</sup>	Family earnings	Family income before tax	Family income after tax
%			
<b>25 to 29</b>			
Bottom third	23.4	13.4	11.5
Top third	12.5	10.4	9.5
<b>30 to 34</b>			
Bottom third	18.4	11.7	10.2
Top third	11.9	10.6	9.9
<b>35 to 39</b>			
Bottom third	18.1	11.7	10.5
Top third	11.0	10.4	9.9
<b>40 to 44</b>			
Bottom third	17.8	12.6	11.6
Top third	10.2	10.1	9.9
<b>45 to 50</b>			
Bottom third	19.6	14.6	13.8
Top third	12.4	11.0	11.0

1. Families with a husband aged 25 to 29 and located in the bottom third of the earnings distribution between 1992 and 1995 saw their after-tax income deviate from its mean by 11.5%, on average, during the 1996 to 2001 period.  
 2. Families in the bottom third and top third of the (age-specific) distribution of couples' earnings between 1992 and 1995.

Among families with a husband aged 30 to 34, those in the bottom third of the earnings distribution between 1992 and 1995 saw their employment income fluctuate from its mean by 18% during the 1996 to 2001 period. In contrast, their counterparts

in the top third of the earnings distribution experienced earnings fluctuations that averaged 12%.

After accounting for the whole set of government transfers, the former group of families saw its income before tax fluctuate by only 12% during the 1996 to 2001 period, compared to 11% for the latter group.

Because of its progressivity, the tax system reduced these differences further. Among families with a husband aged 30 to 34 and located in the bottom third of the earnings distribution, after-tax income ended up fluctuating by 10% on average, the same rate observed for their counterparts at the top of the distribution.

By increasing the income of families in the bottom of the earnings distribution, Canada's transfer system reduced substantially the proportional income losses that these families may have experienced as a result of negative earnings shocks (such as job loss), and thus, increased the economic security of a substantial portion of the Canadian population.

**Growing gap between rich and poorer families**

While there was little change in the stability of family earnings between the two six-year periods, the gap between families in the lowest levels of the earnings distribution and their counterparts at the top of the distribution widened.

For instance, families in which the husband was aged 35 to 39 and which were located in the top third of the earnings distribution saw their average employment income (adjusted for inflation) rise by 21% between these two periods.

In contrast, average employment income fell 1% among their counterparts in the bottom third of the earnings distribution.

The growing earnings gap between the two groups of families was the result of two factors.

First, between these two periods, earnings of husbands aged 35 to 39 increased 20% among families in the top third of the earnings distribution, but they fell 8% among those at the bottom.

Second, wives' earnings grew at the same rate of 26% in both sets of families but they initially represented a bigger percentage of family earnings among families located at the top (30%) than among those located at the bottom (20%). As a result, they tended to boost earnings growth more among the wealthier families than among the poorer families.

**Growth of family earnings  
between 1986 to 1991 and 1996 to 2001<sup>1</sup>**

	Bottom third <sup>2</sup>	Middle third <sup>2</sup>	Top third <sup>2</sup>
	%		
<b>Family earnings</b>			
Age <sup>3</sup>			
25 to 29	0.2	2.6	12.1
30 to 34	1.4	7.1	21.7
35 to 39	-1.1	5.9	21.1
40 to 44	0.0	6.1	19.6
45 to 50	2.1	10.1	22.5
<b>Husbands' earnings</b>			
Age <sup>3</sup>			
25 to 29	-5.0	-5.2	5.8
30 to 34	-5.1	-2.2	16.2
35 to 39	-7.6	-2.3	19.8
40 to 44	-4.5	-0.7	17.6
45 to 50	-2.0	4.7	21.0
<b>Wives' earnings</b>			
Age <sup>3</sup>			
25 to 29	21.0	28.8	28.6
30 to 34	25.8	38.2	35.5
35 to 39	25.8	35.7	25.6
40 to 44	27.4	36.6	30.4
45 to 50	38.6	47.6	38.7

1. Average earnings (measured over six years and discounted at a 3% rate) of families with a husband aged 40 to 44 and located in the top third of the earnings distribution grew 19.6% between 1986 to 1991 and 1996 to 2001.
2. Families in the bottom third and top third of the (age-specific) distribution of couples' earnings during the four years preceding the observation period (e.g., 1982 to 1985 for the 1986 to 1991 observation period).
3. Age of the husband at the beginning of the observation period, i.e., 1986 and 1996. "Husband" includes married men and those in common-law relationships.

The growing inequality in family earnings, measured over two six-year periods, suggests that the Canadian

distribution of family earnings is undergoing changes that are more fundamental than those based simply on annual data.

**Definitions, data sources and methods: survey number 4107.**

The research paper "The instability of family earnings and family income in Canada, 1986 to 1991 and 1996 to 2001" (11F0019MIE2005265, free) is now available online as part of the *Analytical Studies Branch Research Paper Series*. An abridged version of this study entitled "Summary of: The instability of family earnings and family income in Canada, 1986 to 1991 and 1996 to 2001" (11F0019MIE2005266, free) is also available. From our home page select *Studies*, then under Browse periodical and series choose *Free and for sale*. Under Series select *Analytical Studies Branch*.

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

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

## Domestic sales of refined petroleum products

September 2005 (preliminary)

Sales of refined petroleum products totalled 8 085 500 cubic metres in September, down 4.6% from September 2004. Sales decreased in six of the seven major product groups, with motor gasoline sales down 3.7% or by 126 900 cubic metres. Diesel fuel oil sales increased 3.8% or by 84 000 cubic metres.

Sales decreased in all three grades of gasoline, with premium (-16.6%), mid-grade (-11.4%) and regular (-2.3%) gasoline sales down compared with September 2004.

Year-to-date sales of refined petroleum products at the end of September totalled 75 838 400 cubic metres, down 0.5% from the same period of 2004. Sales decreased in five of the seven major product groups, with the largest decrease in petro-chemical feedstocks, which fell 14.2% or by 543 500 cubic metres.

### Sales of refined petroleum products

	Sept. 2004 <sup>r</sup>	Sept. 2005 <sup>p</sup>	Sept. 2004 to Sept. 2005
	'000 cubic metres		% change
<b>Total, all products</b>	<b>8 478.7</b>	<b>8 085.5</b>	<b>-4.6</b>
Motor gasoline	3 396.9	3 270.0	-3.7
Diesel fuel oil	2 238.0	2 322.0	3.8
Light fuel oil	256.8	221.6	-13.7
Heavy fuel oil	711.4	648.6	-8.8
Aviation turbo fuels	579.7	565.9	-2.4
Petrochemical feedstocks <sup>1</sup>	321.9	202.4	-37.1
All other refined products	974.0	855.0	-12.2

  

	Jan. to Sept. 2004 <sup>r</sup>	Jan. to Sept. 2005 <sup>p</sup>	Jan.-Sept. 2004 to Jan.-Sept. 2005
	'000 cubic metres		% change
<b>Total, all products</b>	<b>76 220.6</b>	<b>75 838.4</b>	<b>-0.5</b>
Motor gasoline	30 682.5	30 662.6	-0.1
Diesel fuel oil	18 554.2	19 637.1	5.8
Light fuel oil	3 706.4	3 289.0	-11.3
Heavy fuel oil	6 070.2	5 944.9	-2.1
Aviation turbo fuels	4 904.5	4 918.5	0.3
Petrochemical feedstocks <sup>1</sup>	3 831.2	3 287.7	-14.2
All other refined products	8 471.6	8 098.6	-4.4

<sup>r</sup> Revised.

<sup>p</sup> Preliminary.

1. Materials produced by refineries that are used by the petrochemical industry to produce chemicals, synthetic rubber and a variety of plastics.

### Definitions, data sources and methods: survey number 2150.

Preliminary domestic sales of refined petroleum products data are no longer available on CANSIM.

For more information, or to enquire about the concepts, methods or data quality of this release, contact (1-866-873-8789; 613-951-9497; [energ@statcan.ca](mailto:energ@statcan.ca)), Manufacturing, Construction and Energy Division. ■

### Pipeline transportation of crude oil and refined petroleum products

July 2005

Data on the net receipts of crude oil and equivalent hydrocarbons, liquefied petroleum gases and refined petroleum products, pipeline exports of crude oil and deliveries of crude oil by pipeline to Canadian refineries are now available for July.

Available on CANSIM: tables 133-0001 to 133-0005.

### Definitions, data sources and methods: survey numbers, including related surveys, 2148 and 2191.

For more information, or to enquire about the concepts, methods or data quality of this release, contact the dissemination officer (1-866-873-8789; 613-951-9497; [energ@statcan.ca](mailto:energ@statcan.ca)), Manufacturing, Construction and Energy Division. ■

### Innovation in Selected Transportation Industries: Results from the Survey of Innovation 2003

A working paper highlighting aspects of innovation in selected transportation industries is now available. It is based on data from the 2003 Survey of Innovation, which covered all information and communication technology service industries; selected professional, scientific and technical service industries; selected transportation industries; and support industries for the mining and forestry sectors. The survey is a collaborative project undertaken with Industry Canada, Natural Resources Canada and Transport Canada.

The survey adopts the Organisation of Economic Co-operation and Development Oslo Manual guidelines for measuring innovation where innovation is defined as bringing a new or significantly improved product to market or introducing a new or significantly improved process to the production process within a specified three year interval. The Survey of Innovation covers innovation carried out during the period 2001 to 2003.

Aspects of innovation included in the working paper include incidence of innovation, types of innovation, sources of information for innovation, innovation activities, cooperation and collaboration for innovation, types of partners for collaboration, problems and obstacles which hinder innovation, impacts of innovation, government support for innovation and finally, why some establishments choose not to innovate.

**Definitions, data sources and methods: survey number 4218.**

*Innovation in Selected Transportation Industries: Results from the Survey of Innovation 2003*

(88F0006XIE2005014, free), the third of four working papers on innovation in selected service industries, is now available online. From the *Our products and services* page, under *Browse our Internet publications*, choose *Free*, then *Science and technology*.

For more information or to enquire about the concepts, methods or data quality, contact Charlene Lonmo (613-951-6617; [charlene.lonmo@statcan.ca](mailto:charlene.lonmo@statcan.ca)) or Frances Anderson (613-951-6307; [frances.anderson@statcan.ca](mailto:frances.anderson@statcan.ca)), Science, Innovation and Electronic Information Division. ■

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Statistics Canada

Thursday, June 5, 1997  
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**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 six 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 noticeably weak again in 1996, accompanied by sluggish gains in employment and slow economic growth during the year.

**OTHER RELEASES**

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