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Research Paper

Improvements in 2005 to the Labour Force Survey (LFS)

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Improvements in 2005 to the LFS

Introduction

Several important changes to the Labour Force Survey (LFS) are now being introduced. They will affect data all the way back to 1976. Note that these changes **do not** involve modifications to the questionnaire or content of the survey.

All estimates have been adjusted to reflect population counts based on the 2001 Census. Until now, LFS estimates have been based on population counts from the 1996 Census. The LFS has an established history of conducting such “re-basing exercises” after each Census.

In concert with the rebasing, 2001 census metropolitan area (CMA) boundaries are now being used, which include 2 new CMAs (Kingston and Abbotsford). Boundaries for economic regions and employment insurance regions remain unchanged. The LFS has also implemented new classification structures for industry and occupation data. These are updates from the current North American Industry Classification System 1997 (NAICS 1997) and the Standard Occupational Classification 1991 (SOC 1991) to the NAICS 2002 and the National Occupational Classification – Statistics 2001 (NOC-S 2001) respectively. As these new structures are updates to older coding systems rather than complete redesigns, the changes are not extensive.

Also, the survey has undergone a major sample redesign. The sample redesign improves the efficiency of the estimates by using the most recent Census information available (2001). It also provides an opportunity to introduce innovations in survey methodology. The new sample design is being “phased-in” starting November, 2004 and will be fully implemented in April, 2005.

Sample redesign

The Labour Force Survey (LFS) plays a central role in the national statistical system in several ways. First, the LFS provides monthly estimates of employment and unemployment which are among the most timely and important measures of the overall performance of the Canadian economy. The information supports economic, social and monetary policy and is relied on heavily by decision makers and researchers alike to better understand how work and work time are distributed, to identify groups at risk, and to monitor the impact of labour market policies and programs.

Second, the Employment Insurance Act has designated the LFS as the source of monthly unemployment rates for the 58 employment insurance (EI) regions used in the administration of the EI program. Approximately eight billion dollars per year are transferred to individuals on the basis of these rates.

Third, the LFS infrastructure (sample, interviewers, processing systems) supports a wide and expanding range of other Statistics Canada household surveys that are conducted in response to the policy and information needs of government. As a result, these surveys are conducted for less cost and in a more timely fashion than would otherwise be the case and address questions on health, early childhood development, income, immigration, education, EI coverage, environment, volunteering and internet usage.

In order for the LFS to continue to meet these three key roles, the sampling frame must be up-to-date and flexible, and the estimates must be sufficiently reliable to support policy, decision making and the transfer of large sums of money within the EI program. Every ten years, after the decennial population census, the LFS undergoes a sample redesign to reflect changes in population characteristics and new definitions of geographical boundaries. The current LFS sample is based on information from the 1991 Census, and reflects the population size and distribution, and the geographic boundaries as of 1991. Since then there has been significant population growth and change in population characteristics, as well as extensive realignment of municipal and CMA boundaries.

LFS design strata are delineated to be homogeneous with respect to some key labour market variables. As the design ages and population and labour market characteristics shift, the strata become less efficient. The redesign delineates new strata based on the more recent Census information. Also selection of the sample is based on up-to-date information, leading to greater efficiency. Another advantage of the redesign is the sample can be allocated within provinces in a more efficient manner.

A major innovation in sampling is being introduced with the new design. A residential address register (AR) is now being used to list approximately one third of all dwellings. This introduces cost efficiency as in the past these lists were obtained by field interviewers. Now the field interviewers need only verify the list. Improved lists for these areas will also result because of the combined sources (AR and interviewer verifying).

Note the sample design affects the sample error of the estimates. The expected value of the survey estimates is the same under the new and old design.

Population re-basing

The Labour Force Survey uses estimates of the target population, which are derived independently from the survey, as benchmarks for producing survey estimates. These population estimates start with a Census base and are then updated using administrative data, to reflect the current population of Canada. Using these population counts reduces the sampling error and coverage bias of survey estimates. Proper population numbers are crucial in determining estimates from a sample survey like the LFS. In order to translate the results of the sample into estimates, each individual in the sample is assigned a weight indicating the number of persons in the population that individual represents.

The Census base used for obtaining these estimates is updated several years after each new Census is conducted. Beginning with the release of the January 2005 survey, population estimates used by the Labour Force Survey will change from a 1996 Census base to a 2001 Census base.

These updated population counts result in more accurate labour force estimates than can be expected when using those with a 1996 Census base. As the population estimates move away from their original Census base in time, inadequacies in the administrative data used to update the numbers become more pronounced. For example, in December 2004, the 1996 based estimate of the target population is 0.7% higher than the 2001 based estimate. This means the level estimates of employed, unemployed and not in the labour force were over estimated for that survey month. The differences in the two sets of population estimates can be more pronounced for age sex groups and sub-provincial areas.

The LFS uses population counts that include an adjustment for net Census undercoverage. Undercoverage refers to persons that, unintentionally, are not enumerated by the Census. An improvement in the method of adjusting for Census undercoverage has been used to produce the 2001 net undercount adjustment. In order to exploit this improved methodology fully, LFS data series were revised all the way back to July 1976.

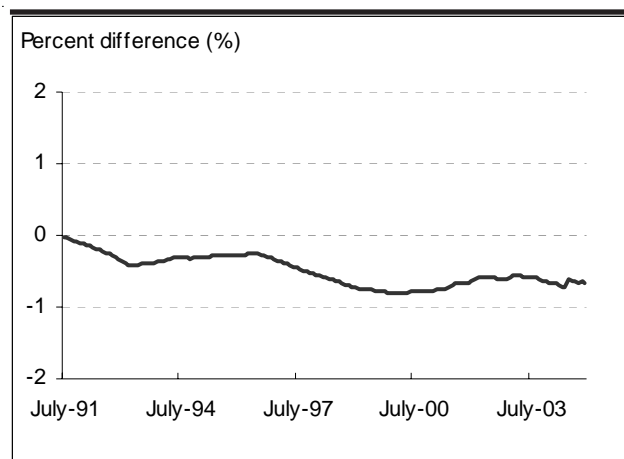
Impact on estimates

Changes in population counts

Estimates of the population have been revised from January 1976 to December 2004. In general, estimates have been revised downward and the magnitude of the revision increases over the period.

At the Canada level, for population 15 years and older, the differences are negligible between January 1976 and June 1991. Over that period, the new population count is at most 0.02% less than the old population count. Beginning in July 1991, and continuing until June 1996, the difference becomes more pronounced but peaks at about 0.4%. After June 1996, the revised population count ranges between 0.6% and 0.8% less than the old population.

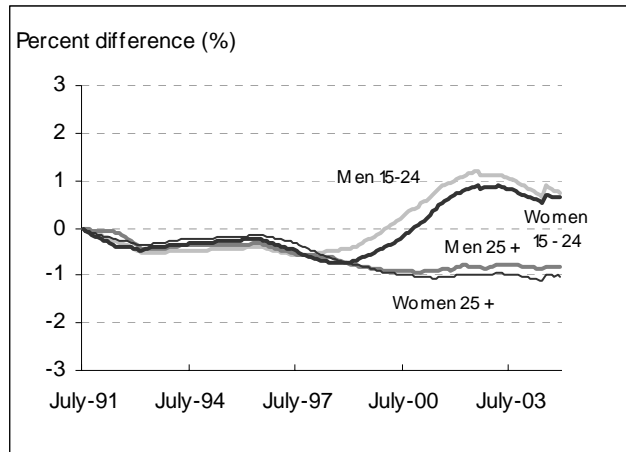
Chart 1
Percent difference in 1996 and 2001 Census based population estimates



Source: Labour Force Survey

As a result of the revisions to the population estimates, the levels of employment, unemployment, and persons not in the labour force tend to be lower. When evaluating the data, however, it is important to keep in mind that different age and gender groups have been affected differently by the population revision. This is illustrated in Chart 2 below. Notably, youth are affected by revision differently than adults. In fact, for recent years the new population count is higher for young men and young women. Because these groups also have different labour market characteristics (for example, a higher proportion of men are employed than women) the relationship between the new and the old estimates can be complex.

Chart 2
Percent difference in 1996 and 2001 Census based population estimates by gender and age



Source: Labour Force Survey

The overall impact of the revision on labour market estimates

Tables 1 and 2 present differences in annual overall estimates of labour force characteristics at the Canada level. As expected, employment, unemployment, and the number of people not in the labour force are usually revised downwards when using the revised estimates due to the new population counts. Persons age 15 to 24 years show a higher employment rate in recent years. Young men show some of the greatest change. In 2004, the revised unemployment rate is 0.3 percentage points lower while the employment rate is 0.7 percentage points higher. Chart 3 displays overall estimates of levels and rates at the Canada level and Chart 4 displays levels by age and sex. The change in employment for youths is somewhat different than other series with employment being higher in recent years.

Tables 3 and 4 present differences in annual average estimates for each province. With the exception of Manitoba, the new population counts are smaller than the old. In Manitoba there is little difference until 2004 when the new estimates are slightly higher.

View of the labour market

When conducting an historical review of survey estimates, concern centers on whether the view of labour market conditions has been altered. Consider the employment chart on page 5. The new estimates of employment are lower overall due to the lower population estimates.

However there is clearly little difference in the trends of the series. The post recession growth in employment is almost the same for the revised numbers. Between 1992 and 2004, the average level of employment increased by 25.6% based on the unrevised estimates and 25.4% based on the revised estimates. But since the revised population estimates grew at a slightly slower pace (16.6%) than the unrevised (17.1%) during this same period, the revised employment rate growth (up 4.4 percentage points) was slightly higher than the unrevised increase of 4.2 points.

Table 5 presents, for the revised and unrevised numbers, the growth between 1989 and 2004 in employment by age, sex, class of worker based on annual averages for those years. The growth for academic attainment uses growth between 1990 and 2004 due to a break in this series between 1989 and 1990. Unemployment is included for age and sex. Table 6 presents the distribution of employment for 2004 across various categories of age, sex, class of worker, and level of education based on the revised and unrevised numbers.

The major areas of growth such as self-employed and those with higher levels of education, remain the same. The distribution of employment by age, sex, class of worker and level of education is similar to that prior to the revision. The distribution of unemployed by age and sex is also little changed. The labour market as portrayed by the revised estimates is essentially unchanged.

Chart 5 presents graphs giving seasonally adjusted employment by industry series at the Canada level. They reveal little difference for most series especially in recent years. Differences in level do appear for some series (health care and social services) due primarily to the different population estimates.

Industry and occupation changes

NAICS 2002 changes affect only the major groups of construction and information and cultural industries. As well, these changes are exclusively within the major groups. For this reason, the changes for NAICS 2002 have had no impact on employment levels by industry.

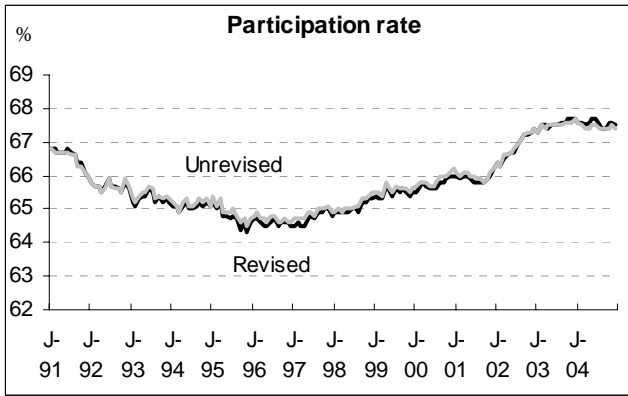
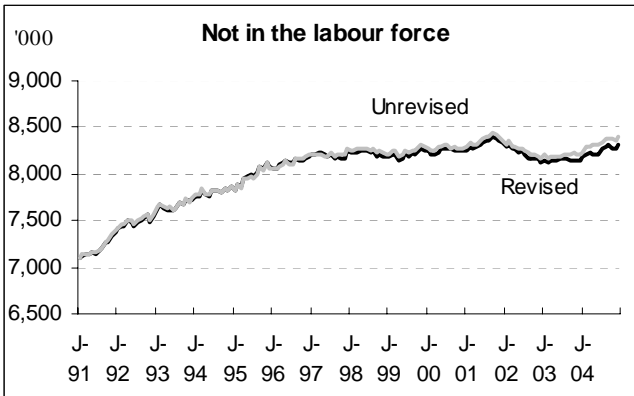
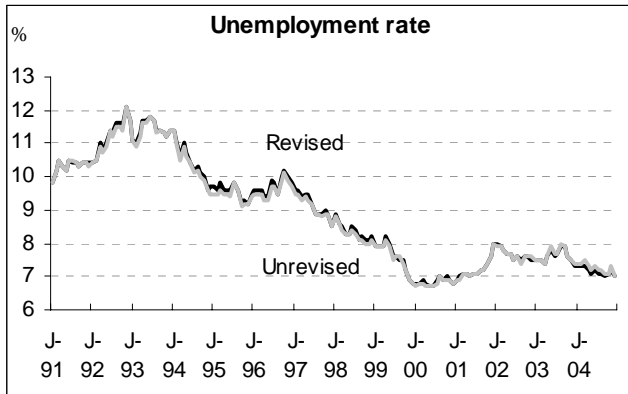
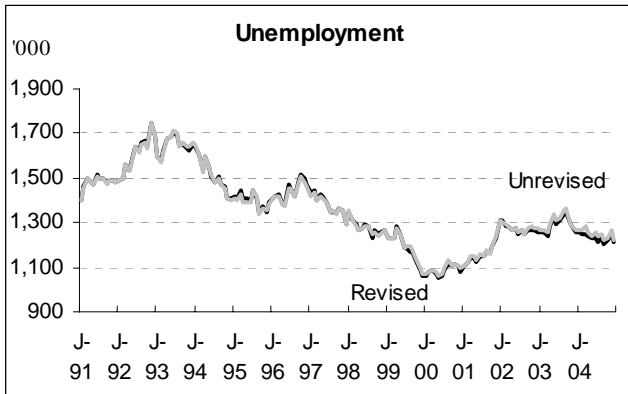
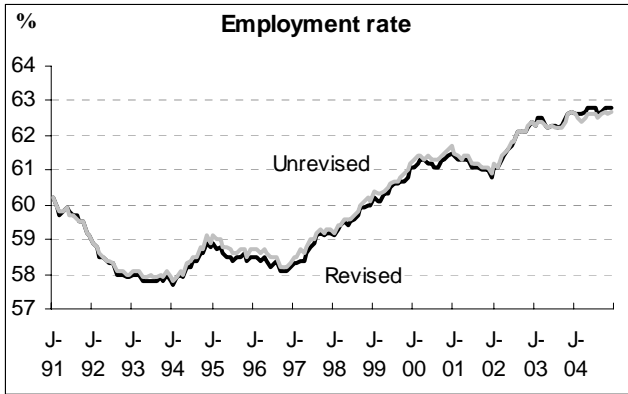
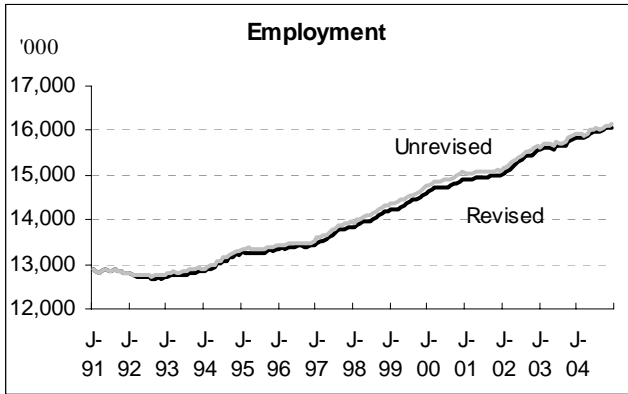
The NOC-S 2001 changes are primarily focused on the occupations concentrated within the information technology field, where much greater detail and precision is now possible. As well, certain occupation codes which were determined to have similar duties and responsibilities have been combined to form groups that are more homogeneous in nature.

Improvements in 2005 to the LFS

As with previous revisions, historical occupation and industry data have been produced to ensure continuity through time. The concordance of NAICS 1997 to NAICS 2002 for the affected industry groups of construction (23) and information, and cultural industries (51) and the concordance between the SOC 1991 and the NOC-S 2001 for the codes with changes are presented in the Appendix.

Although occupation changes were relatively few, levels of employment for some major groups have been affected. In total, 4 code changes were made at the major group level. These were: B521 became C181, G813 became E217, G951 became D313, and J195 became H326. For each of these changes, movements in the level of employment can be seen at the major group level. That is, a reduction of employment in the old major group (B, G, J), and an increase in the new groups (C, D, E, H). Finally, several codes have been split to allow the differentiation of certain occupations which wasn't possible in the SOC 1991 structure.

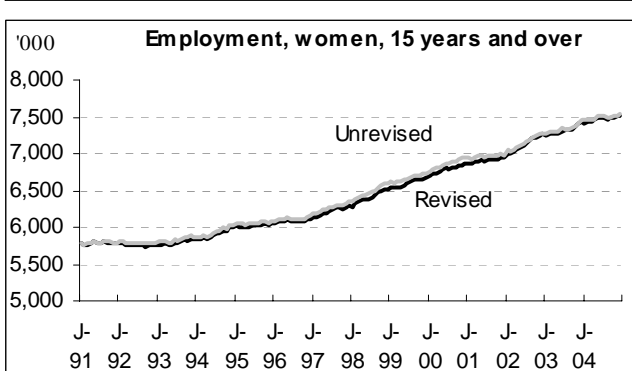
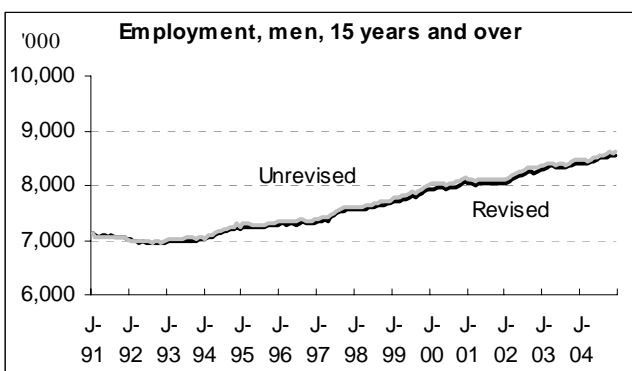
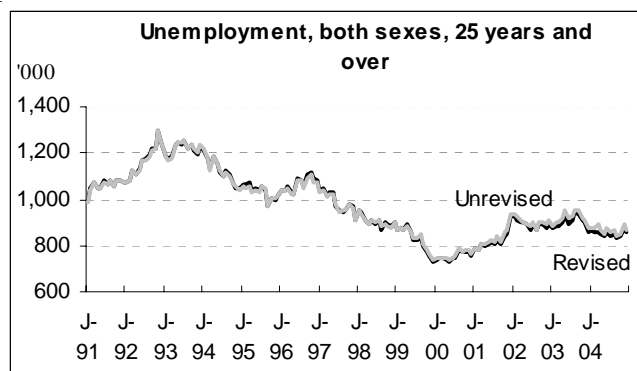
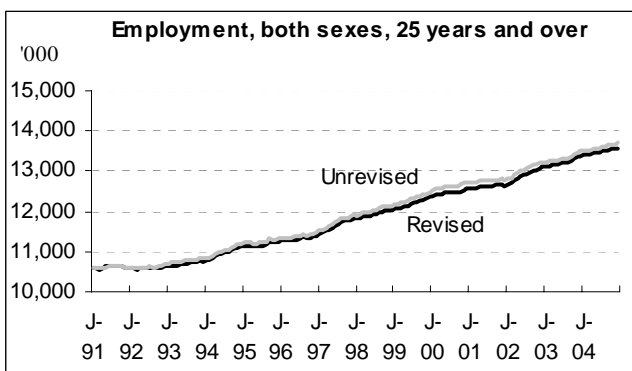
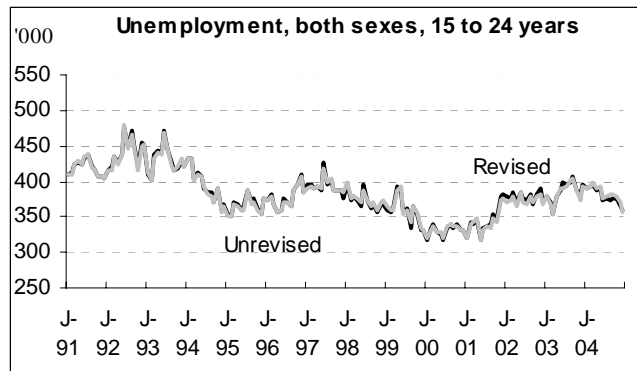
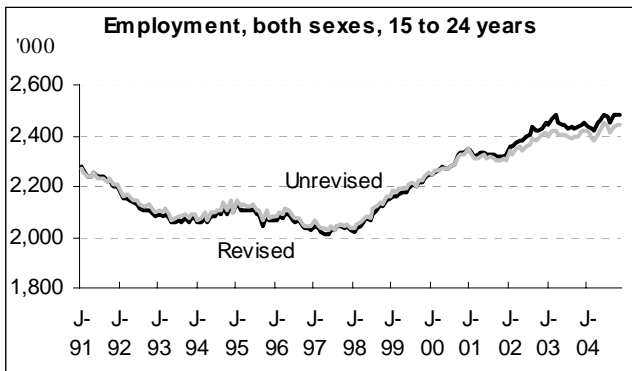
Chart 3
Comparison of revised and unrevised labour force levels and rates, seasonally adjusted from January 1991 to December 2004.



Source: Labour Force Survey

Improvements in 2005 to the LFS

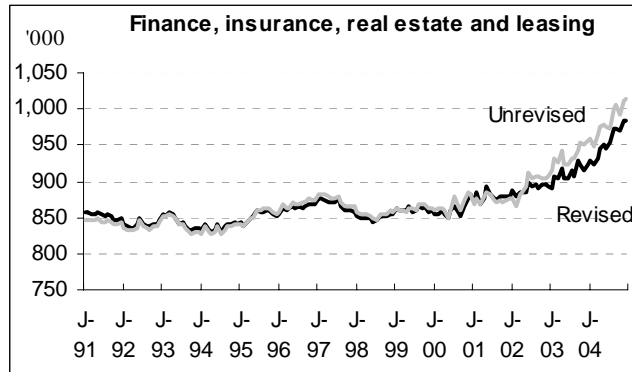
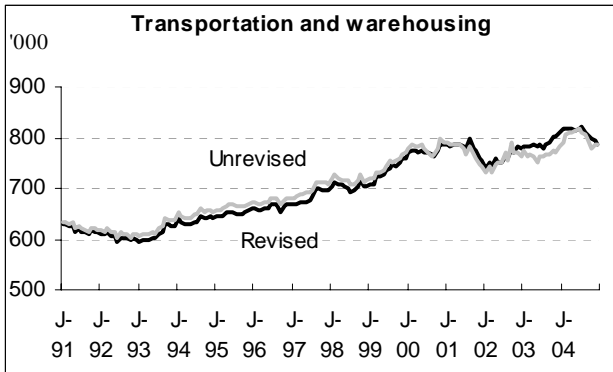
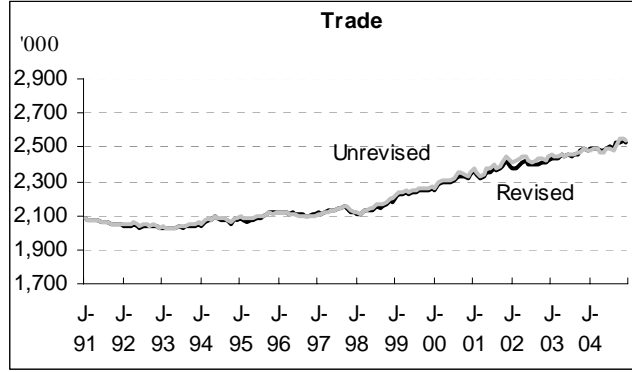
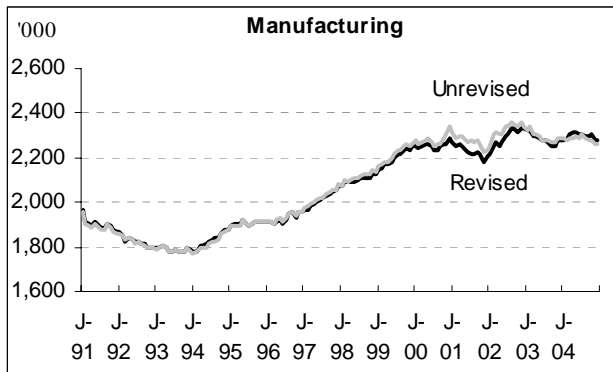
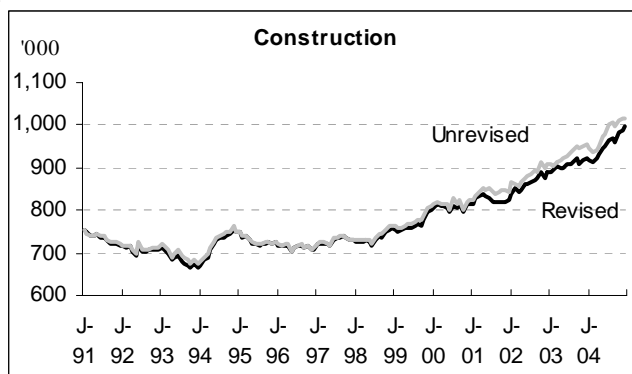
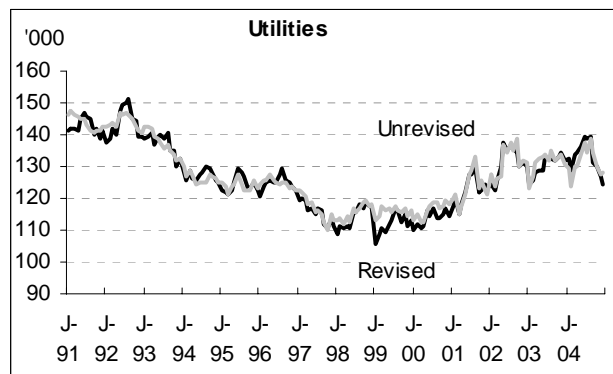
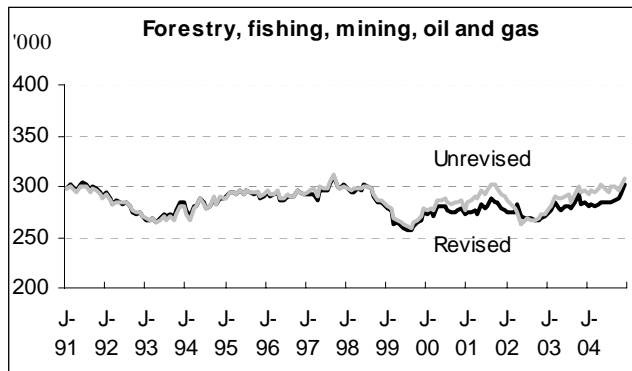
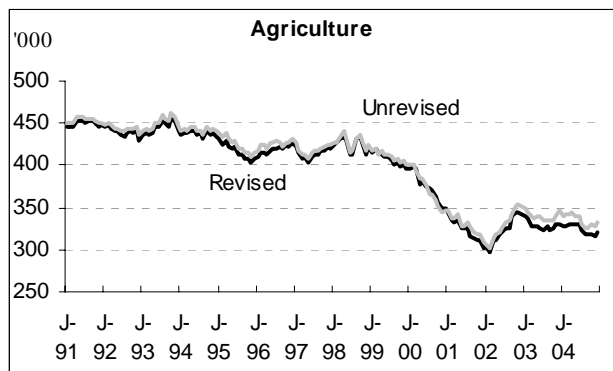
Chart 4
Comparison of revised and unrevised employment and unemployment levels by age and sex, seasonally adjusted from January 1991 to December 2004.



Source: Labour Force Survey

Chart 5A

Comparison of revised and unrevised employment levels by industry, seasonally adjusted from January 1991 to December 2004.

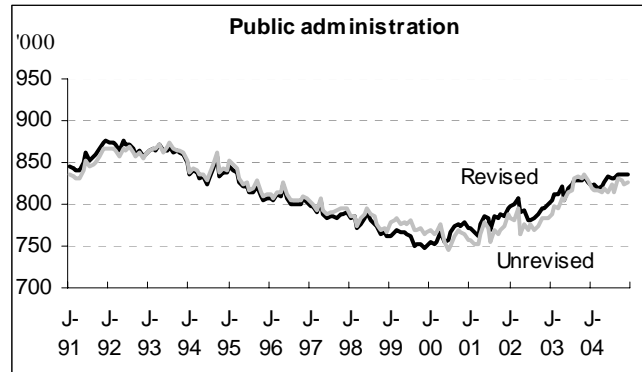
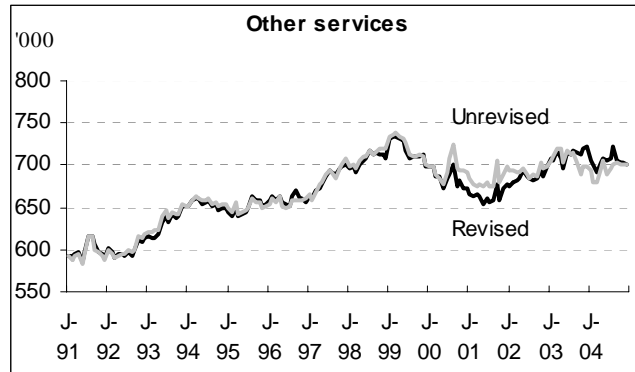
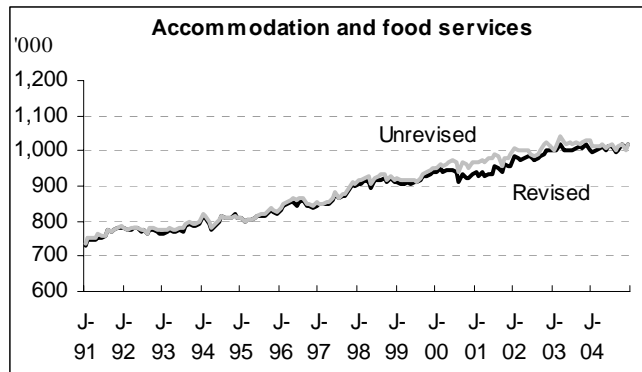
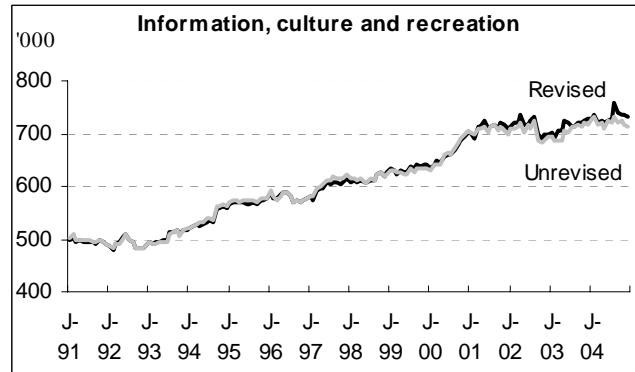
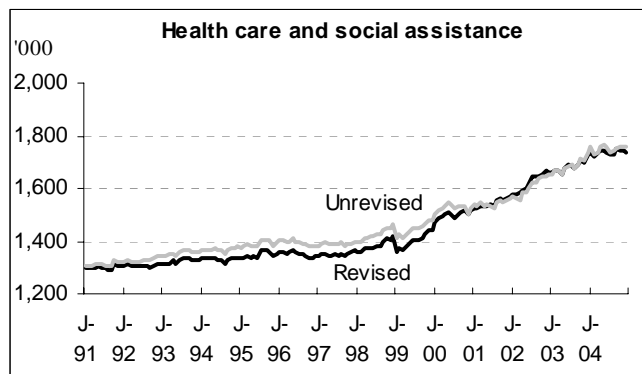
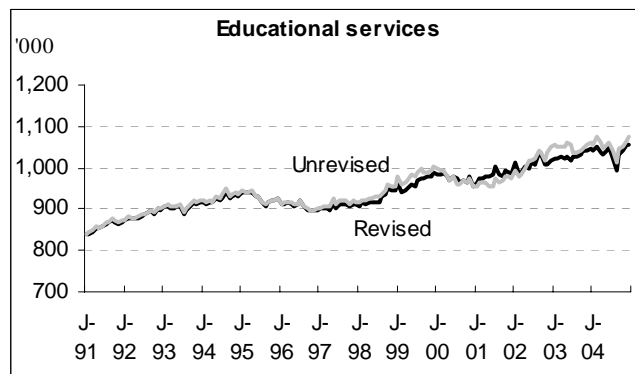
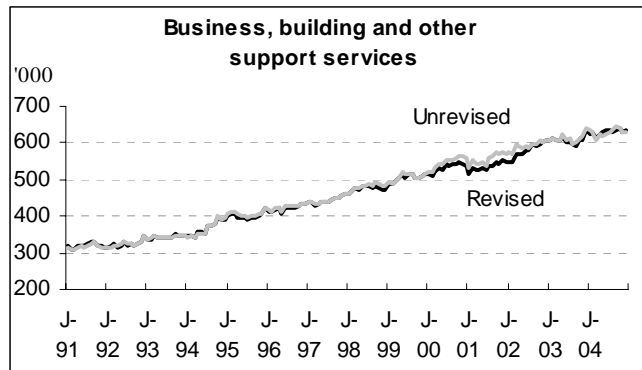
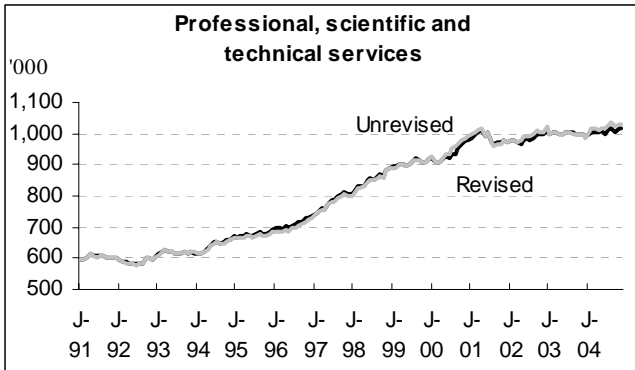


Source: Labour Force Survey

Improvements in 2005 to the LFS

Chart 5B

Comparison of revised and unrevised employment levels by industry, seasonally adjusted from January 1991 to December 2004.



Source: Labour Force Survey

Table 1
Labour force characteristics of revised minus unrevised estimates by age and sex, annual averages for selected years

	Population 15 years and over	Labour force	Employ- ment	Full-time employ- ment	Part-time employ- ment	Unemploy- ment	Not in the labour force	Unemploy- ment rate	Partici- pation rate	Employ- ment rate
	'000						% point difference			
Both sexes, 15+										
1991	-7.3	1.5	0.3	13.2	-12.9	1.1	-8.8	0.0	0.1	0.0
1996	-63.6	-65.0	-71.0	-51.5	-19.5	6.0	1.5	0.1	-0.1	-0.2
2001	-173.5	-135.5	-130.1	-104.0	-26.1	-5.5	-38.0	0.0	-0.1	-0.1
2004	-170.4	-85.8	-70.8	-71.5	0.7	-15.1	-84.7	0.0	0.2	0.1
Both sexes, 15 - 24										
1991	-2.1	1.9	1.4	9.3	-8.0	0.5	-3.8	0.0	0.1	0.0
1996	-13.6	-11.1	-12.4	1.2	-13.7	1.4	-2.5	0.2	-0.1	-0.1
2001	24.9	17.3	13.5	19.7	-6.3	3.9	7.6	0.1	0.0	0.0
2004	29.7	38.0	38.0	33.6	4.4	0.0	-8.3	-0.2	0.4	0.5
Both sexes, 25 +										
1991	-5.3	-0.4	-1.0	3.8	-4.9	0.6	-5.0	0.0	0.0	0.0
1996	-49.9	-53.9	-58.5	-52.8	-5.8	4.6	4.0	0.1	-0.1	-0.1
2001	-198.4	-152.9	-143.5	-123.7	-19.8	-9.4	-45.6	0.0	-0.2	-0.1
2004	-200.2	-123.9	-108.8	-105.0	-3.7	-15.1	-76.3	0.0	0.1	0.0
Men, 15+										
1991	-2.5	5.7	6.9	9.1	-2.2	-1.2	-8.2	-0.1	0.1	0.1
1996	-41.8	-40.2	-41.7	-35.8	-5.9	1.6	-1.5	0.1	-0.1	-0.1
2001	-73.6	-78.7	-74.5	-71.7	-2.8	-4.2	5.1	0.0	-0.2	-0.2
2004	-69.7	-59.7	-51.4	-56.4	5.1	-8.3	-10.0	0.0	0.0	0.0
Men, 15-24										
1991	-0.8	4.1	3.8	5.8	-2.0	0.3	-5.0	0.0	0.3	0.2
1996	-8.6	-3.7	-3.8	1.4	-5.2	0.1	-4.9	0.0	0.1	0.0
2001	16.4	12.7	11.2	12.3	-1.1	1.7	3.5	0.0	0.0	0.1
2004	16.8	22.7	23.5	21.0	2.6	-0.9	-5.9	-0.3	0.6	0.7
Men, 25+										
1991	-1.5	1.7	3.1	3.3	-0.2	-1.5	-3.2	0.0	0.0	0.1
1996	-33.3	-36.5	-37.9	-37.2	-0.6	1.3	3.4	0.0	-0.1	-0.1
2001	-89.9	-91.4	-85.7	-84.0	-1.6	-5.8	1.5	0.0	-0.2	-0.2
2004	-86.5	-82.3	-74.9	-77.3	2.4	-7.4	-4.1	0.0	-0.1	-0.1
Women, 15+										
1991	-5.0	-4.2	-6.5	4.1	-10.7	2.3	-0.6	0.0	0.0	0.0
1996	-21.8	-24.8	-29.2	-15.7	-13.5	4.4	3.0	0.1	-0.1	-0.1
2001	-100.0	-56.9	-55.6	-32.3	-23.3	-1.3	-43.1	0.1	0.0	0.0
2004	-100.8	-26.2	-19.4	-15.1	-4.4	-6.7	-74.7	-0.1	0.3	0.3
Women, 15-24										
1991	-1.1	-2.3	-2.4	3.6	-6.0	0.1	1.1	0.0	-0.1	-0.1
1996	-5.1	-7.4	-8.6	-0.2	-8.4	1.2	2.4	0.1	-0.2	-0.3
2001	8.5	4.6	2.3	7.4	-5.1	2.3	3.9	0.1	-0.1	-0.1
2004	12.9	15.4	14.4	12.6	1.8	0.9	-2.5	0.0	0.3	0.4
Women, 25+										
1991	-3.7	-1.9	-4.1	0.5	-4.7	2.1	-1.8	0.0	0.1	0.0
1996	-16.6	-17.4	-20.6	-15.5	-5.1	3.2	0.7	0.0	-0.1	-0.1
2001	-108.6	-61.5	-57.9	-39.7	-18.2	-3.6	-47.1	0.0	0.1	0.0
2004	-113.7	-41.5	-33.9	-27.7	-6.2	-7.7	-72.2	-0.1	0.3	0.3

Source: Labour Force Survey

Improvements in 2005 to the LFS

Table 2
Percentage difference of labour force characteristics between revised and unrevised estimates by age and sex, annual averages for selected years

	Population 15 years and over	Labour force	Employ- ment	Full-time employ- ment	Part-time employ- ment	Unemploy- ment	Not in the labour force
	% difference						
Both sexes, 15+							
1991	0.0	0.0	0.0	0.1	-0.5	0.1	-0.1
1996	-0.3	-0.4	-0.5	-0.5	-0.8	0.4	0.0
2001	-0.7	-0.8	-0.9	-0.8	-1.0	-0.5	-0.5
2004	-0.7	-0.5	-0.4	-0.5	0.0	-1.2	-1.0
Both sexes, 15 - 24							
1991	-0.1	0.1	0.1	0.7	-0.9	0.1	-0.3
1996	-0.3	-0.5	-0.6	0.1	-1.4	0.4	-0.2
2001	0.6	0.7	0.6	1.5	-0.6	1.1	0.5
2004	0.7	1.4	1.6	2.5	0.4	0.0	-0.6
Both sexes, 25 +							
1991	0.0	0.0	0.0	0.0	-0.3	0.1	-0.1
1996	-0.3	-0.4	-0.5	-0.5	-0.4	0.4	0.1
2001	-1.0	-1.1	-1.1	-1.1	-1.2	-1.1	-0.7
2004	-0.9	-0.9	-0.8	-0.9	-0.2	-1.7	-1.1
Men, 15+							
1991	0.0	0.1	0.1	0.1	-0.3	-0.1	-0.3
1996	-0.4	-0.5	-0.6	-0.5	-0.7	0.2	0.0
2001	-0.6	-0.9	-0.9	-1.0	-0.3	-0.6	0.2
2004	-0.6	-0.6	-0.6	-0.7	0.6	-1.2	-0.3
Men, 15-24							
1991	0.0	0.3	0.3	0.8	-0.5	0.1	-0.8
1996	-0.4	-0.3	-0.4	0.2	-1.3	0.0	-0.7
2001	0.8	0.9	0.9	1.7	-0.2	0.8	0.5
2004	0.8	1.6	1.9	2.8	0.6	-0.4	-0.8
Men, 25+							
1991	0.0	0.0	0.1	0.1	-0.1	-0.2	-0.2
1996	-0.4	-0.5	-0.6	-0.6	-0.2	0.2	0.1
2001	-0.9	-1.2	-1.2	-1.3	-0.4	-1.3	0.1
2004	-0.8	-1.1	-1.0	-1.1	0.5	-1.6	-0.2
Women, 15+							
1991	0.0	-0.1	-0.1	0.1	-0.7	0.4	0.0
1996	-0.2	-0.4	-0.5	-0.4	-0.8	0.7	0.1
2001	-0.8	-0.8	-0.8	-0.6	-1.2	-0.3	-0.9
2004	-0.8	-0.3	-0.3	-0.3	-0.2	-1.2	-1.5
Women, 15-24							
1991	-0.1	-0.2	-0.2	0.6	-1.2	0.1	0.2
1996	-0.3	-0.6	-0.9	0.0	-1.6	0.8	0.3
2001	0.4	0.4	0.2	1.3	-0.9	1.6	0.5
2004	0.6	1.1	1.2	2.2	0.3	0.6	-0.4
Women, 25+							
1991	0.0	0.0	-0.1	0.0	-0.4	0.5	0.0
1996	-0.2	-0.3	-0.4	-0.4	-0.4	0.7	0.0
2001	-1.0	-1.0	-1.0	-0.9	-1.4	-1.0	-1.1
2004	-1.0	-0.6	-0.5	-0.6	-0.4	-1.9	-1.7

Source: Labour Force Survey

Table 3
Labour force characteristics of revised minus unrevised estimates by province, annual averages for selected years

	Population 15 years and over	Labour force	Employ- ment	Full-time employ- ment '000	Part-time employ- ment	Unemploy- ment	Not in the labour force	Unemploy- ment rate % point difference	Partici- pation rate	Employ- ment rate
Newfoundland and Labrador										
1991	0.1	0.5	0.6	0.6	0.0	-0.1	-0.3	-0.1	0.1	0.2
1996	-0.9	0.1	0.7	0.4	0.3	-0.5	-1.0	-0.2	0.1	0.2
2001	-12.1	-8.9	-7.1	-6.1	-1.0	-1.7	-3.3	-0.1	-0.4	-0.3
2004	-10.1	-7.8	-5.6	-5.1	-0.5	-2.2	-2.2	-0.4	-0.5	-0.1
Prince Edward Island										
1991	-0.1	-0.1	0.0	-0.2	0.1	0.0	0.1	0.0	0.0	0.0
1996	-0.4	-0.3	-0.2	-0.3	0.0	0.0	-0.2	0.1	0.0	0.0
2001	-2.7	-2.4	-2.2	-1.9	-0.2	-0.3	-0.3	0.0	-0.5	-0.5
2004	-3.6	-3.3	-2.9	-2.5	-0.4	-0.5	-0.2	-0.2	-0.8	-0.7
Nova Scotia										
1991	0.0	-0.5	-0.3	0.5	-0.8	-0.2	0.5	0.0	0.0	-0.1
1996	0.0	-1.8	-2.4	-2.0	-0.4	0.6	1.6	0.2	-0.3	-0.4
2001	-9.0	-8.5	-7.9	-6.5	-1.3	-0.6	-0.4	0.1	-0.4	-0.4
2004	-7.6	-5.4	-4.1	-4.0	-0.2	-1.3	-2.2	-0.2	-0.1	0.0
New Brunswick										
1991	-0.1	1.0	1.2	1.2	0.0	-0.3	-1.1	-0.1	0.2	0.2
1996	-0.7	-0.9	-0.8	-0.3	-0.4	-0.1	0.1	0.0	-0.1	-0.1
2001	-5.7	-4.9	-3.8	-3.3	-0.4	-1.0	-0.8	-0.1	-0.2	-0.1
2004	-5.2	-3.6	-2.6	-2.5	0.0	-1.0	-1.6	-0.1	-0.1	0.1
Quebec										
1991	-2.0	1.4	-0.2	2.6	-2.8	1.6	-3.3	0.1	0.1	0.1
1996	-27.0	-24.5	-29.1	-22.2	-6.8	4.6	-2.5	0.2	-0.1	-0.3
2001	-44.7	-34.6	-34.3	-28.1	-6.3	-0.2	-10.1	0.1	-0.1	-0.2
2004	-38.0	-19.4	-19.0	-15.7	-3.3	-0.4	-18.6	0.1	0.1	0.0
Ontario										
1991	-2.6	1.1	-0.6	3.9	-4.5	1.8	-3.7	0.1	0.0	0.0
1996	-20.4	-22.4	-22.7	-15.5	-7.2	0.2	2.1	0.1	-0.1	-0.1
2001	-52.9	-37.8	-37.1	-36.1	-1.0	-0.6	-15.2	0.0	0.0	-0.1
2004	-57.1	-23.1	-18.5	-30.1	11.5	-4.7	-34.0	0.0	0.2	0.2
Manitoba										
1991	-0.2	-0.5	-0.5	0.1	-0.6	0.1	0.3	0.1	0.0	0.0
1996	-0.2	-2.1	-2.7	-2.1	-0.6	0.7	1.9	0.2	-0.2	-0.3
2001	-1.3	-3.4	-3.6	-2.0	-1.6	0.1	2.2	0.0	-0.3	-0.3
2004	4.2	0.7	0.8	1.4	-0.6	-0.1	3.5	0.0	-0.3	-0.2
Saskatchewan										
1991	-0.1	0.0	-0.3	0.2	-0.4	0.2	-0.1	0.0	0.0	-0.1
1996	-0.8	-1.0	-1.2	-0.8	-0.3	0.3	0.2	0.0	-0.1	0.0
2001	-17.2	-12.7	-11.8	-9.2	-2.5	-1.0	-4.5	0.0	-0.1	-0.1
2004	-12.3	-11.5	-10.4	-8.1	-2.2	-1.2	-0.7	-0.1	-0.4	-0.3
Alberta										
1991	-1.2	-0.6	-1.2	1.6	-2.8	0.6	-0.5	0.1	0.1	0.0
1996	-5.2	-4.9	-4.7	-1.6	-3.1	-0.1	-0.4	0.1	-0.1	-0.1
2001	-3.5	-1.2	-2.1	1.6	-3.7	0.8	-2.3	0.1	0.0	0.0
2004	-13.0	2.3	3.5	4.0	-0.6	-1.1	-15.4	-0.1	0.5	0.5
British Columbia										
1991	-1.4	-0.8	1.6	2.7	-1.1	-2.5	-0.6	-0.1	0.0	0.1
1996	-7.9	-7.4	-7.9	-7.1	-0.7	0.3	-0.5	0.0	-0.1	-0.1
2001	-24.5	-21.2	-20.3	-12.2	-8.0	-0.8	-3.4	0.0	-0.1	-0.2
2004	-27.9	-14.8	-12.0	-9.0	-3.1	-2.7	-13.1	-0.1	0.1	0.2

Source: Labour Force Survey

Improvements in 2005 to the LFS

Table 4
Percentage difference of labour force characteristics between revised and unrevised estimates by province, annual averages for selected years

	Population 15 years and over	Labour force	Employ- ment	Full-time employ- ment	Part-time employ- ment	Unemploy- ment	Not in the labour force
% difference							
Newfoundland and Labrador							
1991	0.0	0.2	0.3	0.3	0.0	-0.2	-0.2
1996	-0.2	0.0	0.4	0.3	1.0	-1.1	-0.5
2001	-2.8	-3.5	-3.4	-3.4	-3.3	-4.2	-1.8
2004	-2.3	-3.0	-2.5	-2.7	-1.5	-5.2	-1.2
Prince Edward Island							
1991	-0.1	-0.2	0.0	-0.5	1.0	0.0	0.3
1996	-0.4	-0.4	-0.3	-0.6	0.0	0.0	-0.6
2001	-2.4	-3.2	-3.3	-3.4	-1.9	-3.4	-0.8
2004	-3.1	-4.2	-4.2	-4.3	-3.5	-5.6	-0.6
Nova Scotia							
1991	0.0	-0.1	-0.1	0.2	-1.1	-0.4	0.2
1996	0.0	-0.4	-0.6	-0.7	-0.5	1.1	0.5
2001	-1.2	-1.8	-1.9	-1.9	-1.7	-1.3	-0.1
2004	-1.0	-1.1	-0.9	-1.1	-0.2	-3.0	-0.8
New Brunswick							
1991	0.0	0.3	0.4	0.5	0.0	-0.7	-0.5
1996	-0.1	-0.3	-0.3	-0.1	-0.8	-0.2	0.0
2001	-0.9	-1.3	-1.1	-1.2	-0.8	-2.4	-0.3
2004	-0.8	-0.9	-0.7	-0.8	0.0	-2.6	-0.7
Quebec							
1991	0.0	0.0	0.0	0.1	-0.5	0.4	-0.2
1996	-0.5	-0.7	-0.9	-0.9	-1.2	1.1	-0.1
2001	-0.7	-0.9	-1.0	-1.0	-1.1	-0.1	-0.5
2004	-0.6	-0.5	-0.5	-0.5	-0.5	-0.1	-0.9
Ontario							
1991	0.0	0.0	0.0	0.1	-0.5	0.3	-0.1
1996	-0.2	-0.4	-0.4	-0.4	-0.7	0.0	0.1
2001	-0.6	-0.6	-0.6	-0.7	-0.1	-0.1	-0.5
2004	-0.6	-0.3	-0.3	-0.6	1.0	-1.0	-1.1
Manitoba							
1991	0.0	-0.1	-0.1	0.0	-0.5	0.2	0.1
1996	0.0	-0.4	-0.5	-0.5	-0.5	1.7	0.7
2001	-0.2	-0.6	-0.6	-0.4	-1.5	0.3	0.8
2004	0.5	0.1	0.1	0.3	-0.5	-0.3	1.3
Saskatchewan							
1991	0.0	0.0	-0.1	0.1	-0.4	0.6	0.0
1996	-0.1	-0.2	-0.3	-0.2	-0.3	0.9	0.1
2001	-2.3	-2.5	-2.5	-2.4	-2.7	-3.4	-1.7
2004	-1.6	-2.2	-2.1	-2.1	-2.3	-4.3	-0.3
Alberta							
1991	-0.1	0.0	-0.1	0.2	-1.2	0.5	-0.1
1996	-0.2	-0.3	-0.3	-0.1	-1.2	-0.1	-0.1
2001	-0.1	-0.1	-0.1	0.1	-1.2	1.0	-0.4
2004	-0.5	0.1	0.2	0.3	-0.2	-1.3	-2.3
British Columbia							
1991	-0.1	0.0	0.1	0.2	-0.4	-1.4	-0.1
1996	-0.3	-0.4	-0.4	-0.5	-0.2	0.2	0.0
2001	-0.7	-1.0	-1.0	-0.8	-1.9	-0.5	-0.3
2004	-0.8	-0.7	-0.6	-0.5	-0.7	-1.7	-1.1

Source: Labour Force Survey

Table 5

Percent growth of revised and unrevised employment, unemployment by age and sex and class of worker for both sexes between 1989 and 2004, and level of education for both sexes between 1990 and 2004

	Men		Women	
	Revised	Unrevised	Revised	Unrevised
Employment	% growth		% growth	
15 +	16.4	17.1	31.1	31.4
15 - 24	-4.8	-6.3	-0.3	-1.4
25 +	21.0	22.2	39.6	40.3
25 - 44	1.9	3.4	12.6	14.1
45 +	58.3	58.5	104.6	103.3
25 - 54	16.9	18.4	33.3	34.4
55 +	46.7	45.6	96.3	93.7
15 - 19	-8.8	-10.4	-0.7	-2.3
20 - 24	-2.3	-3.7	0.0	-0.9
25 - 29	-18.3	-16.9	-9.2	-7.6
30 - 34	-9.8	-8.4	0.2	2.3
35 - 44	20.6	22.2	32.6	33.6
45 - 54	66.2	67.4	108.8	108.3
55 - 59	50.9	51.1	110.6	110.6
60 - 64	34.0	32.8	88.7	85.2
65 +	59.1	53.4	51.2	41.1
65 - 69	55.5	49.2	60.1	51.8
70 +	64.6	59.9	35.3	23.1
Unemployment				
15 +	17.5	19.4	13.8	15.8
15 - 24	19.8	20.3	24.5	25.4
25 +	16.5	19.0	9.9	12.4
25 - 44	-0.5	1.9	-11.0	-8.3
45 +	59.0	62.4	80.4	82.4
25 - 54	13.0	15.7	3.2	5.8
55 +	39.9	41.0	93.5	94.3
15 - 19	31.0	31.3	59.3	59.5
20 - 24	10.2	11.0	-4.2	-2.7
25 - 29	-13.7	-13.9	-33.8	-31.7
30 - 34	-22.6	-18.5	-31.1	-28.6
35 - 44	26.6	30.4	21.6	25.1
45 - 54	75.0	80.4	73.8	76.6
55 - 59	51.9	55.9	96.4	94.7
60 - 64	8.5	6.0	74.4	77.8
65 +	148.0	152.0	-	-
65 - 69	163.2	163.2	-	-
70 +	-	-	-	-
Employment by class of worker between 1989 and 2004	Revised	Unrevised	% growth	
Total	22.8	23.4		
Employees	20.6	21.2		
Self-employed	36.9	36.7		
Employment by level of education between 1990 and 2004			% growth	
Total	22.0	22.4		
0 - 8 years	-48.2	-47.7		
Some high school	-29.2	-29.0		
High school graduate	9.0	9.9		
Some post-secondary	25.2	24.9		
Post-secondary certificate or diploma	58.1	58.6		
University degree	78.5	80.2		
Bachelor's degree	82.5	84.2		
Graduate degree	70.0	71.6		

Source: Labour Force Survey

Improvements in 2005 to the LFS

Table 6
Percent share of revised and unrevised employment and unemployment by age and sex, and by class of worker and level of education for both sexes in 2004

	Men		Women	
	Revised	Unrevised	Revised	Unrevised
Employment	% share		% share	
15 +	100.0	100.0	100.0	100.0
15 - 24	14.7	14.4	16.2	16.0
25 +	85.3	85.6	83.8	84.0
25 - 44	47.4	47.8	47.8	48.3
45 +	37.8	37.8	36.0	35.8
25 - 54	71.0	71.4	72.1	72.4
55 +	14.3	14.2	11.7	11.6
15 - 19	5.4	5.3	6.2	6.1
20 - 24	9.3	9.1	10.0	9.8
25 - 29	10.3	10.4	10.6	10.8
30 - 34	11.3	11.4	11.1	11.3
35 - 44	25.8	26.0	26.1	26.2
45 - 54	23.5	23.6	24.3	24.2
55 - 59	7.9	7.9	7.3	7.3
60 - 64	4.2	4.1	3.2	3.1
65 +	2.3	2.2	1.2	1.2
65 - 69	1.4	1.3	0.8	0.8
70 +	0.9	0.9	0.4	0.4
Unemployment				
15 +	100.0	100.0	100.0	100.0
15 - 24	31.9	31.7	29.4	28.9
25 +	68.1	68.3	70.6	71.1
25 - 44	41.5	42.0	44.1	44.8
45 +	26.5	26.3	26.5	26.3
25 - 54	57.5	57.9	61.4	62.0
55 +	10.6	10.4	9.2	9.2
15 - 19	16.2	15.8	17.1	16.6
20 - 24	15.8	15.8	12.3	12.3
25 - 29	12.3	12.2	10.3	10.5
30 - 34	8.8	9.1	9.8	10.1
35 - 44	20.5	20.7	24.0	24.2
45 - 54	15.9	15.9	17.3	17.1
55 - 59	6.5	6.4	6.0	6.0
60 - 64	3.2	3.1	2.6	2.6
65 +	0.9	0.9	0.6	0.6
65 - 69	0.7	0.7	0.5	0.5
70 +	0.0	0.0	0.0	0.0

	Revised	Unrevised
Employment by class of worker	% share	
Total	100.0	100.0
Employees	84.6	84.6
Self-employed	15.4	15.4

	Revised	Unrevised
Employment by level of education		
Total	100.0	100.0
0 - 8 years	3.1	3.2
Some high school	11.2	11.2
High school graduate	20.3	20.4
Some post-secondary	10.0	9.9
Post-secondary certificate or diploma	34.1	34.0
University degree	21.2	21.2
Bachelor's degree	14.8	14.8
Graduate degree	6.4	6.4

Source: Labour Force Survey

Appendix 1
NAICS 1997 to NAICS 2002 concordance for construction – group 23

NAICS 1997	NAICS 2002
2311 Land Subdivision and Land Development	2372 Land Subdivision
2312 Building Construction	2361 Residential Building Construction
	2362 Non-residential Building Construction
2313 Engineering Construction	2362 Non-residential Building Construction
	2371 Utility System Construction
	2373 Highway, Street and Bridge Construction
	2379 Other Heavy and Civil Engineering Construction
2314 Construction Management	2361 Residential Building Construction
	2362 Non-residential Building Construction
	2371 Utility System Construction
	2373 Highway, Street and Bridge Construction
2321 Site Preparation Work	2379 Other Heavy and Civil Engineering Construction
	2371 Utility System Construction
2322 Building Structure Work	2389 Other Specialty Trade Contractors
	2381 Foundation, Structure, and Building Exterior Contractors
	2383 Building Finishing Contractors
2323 Building Exterior Finishing Work	2389 Other Specialty Trade Contractors
	2381 Foundation, Structure, and Building Exterior Contractors
	2382 Building Equipment Contractors
2324 Building Interior Finishing Work	2383 Building Finishing Contractors
	2389 Other Specialty Trade Contractors
2325 Building Equipment Installation	2382 Building Equipment Contractors
	2383 Building Finishing Contractors
	2389 Other Specialty Trade Contractors
2329 Other Special Trade Contracting	2382 Building Equipment Contractors
	2383 Building Finishing Contractors
	2389 Other Specialty Trade Contractors

Appendix 2
NAICS 1997 to NAICS 2002 concordance for information and cultural industries – group 51

NAICS 1997	NAICS 2002
5111 Newspaper, Periodical, Book and Database Publishers	5111 Newspaper, Periodical, Book and Directory Publishers
	5161 Internet Publishing and Broadcasting
5112 Software Publishers	5112 Software Publishers
	5161 Internet Publishing and Broadcasting
5131 Radio and Television Broadcasting	5151 Radio and Television Broadcasting
5132 Pay TV, Specialty TV and Program Distribution	5152 Pay and Specialty Television
	5175 Cable and Other Program Distribution
5133 Telecommunications	5171 Wired Telecommunications Carriers
	5172 Wireless Telecommunications Carriers (except Satellite)
	5173 Telecommunications Resellers
	5174 Satellite Telecommunications
5141 Information Services	5179 Other Telecommunications
	5161 Internet Publishing and Broadcasting
	5181 Internet Service Providers, Web Search Portals
5142 Data Processing Services	5191 Other Information Services
	5182 Data Processing, Hosting, and Related Services

Note: Industry group 512 (Motion Picture and Sound Recording) is not included in this table as there were no changes in this group.

Improvements in 2005 to the LFS

Appendix 3 SOC 1991 to NOC-S 2001 concordance

SOC 1991	NOC-S 2001
A121 Engineering Science and Architecture Managers	A121 Engineering Managers
	A123 Architecture and Science Managers
B511 General Office Clerks	B511 General Office Clerks
B512 Typists and Word Processing Operators	B511 General Office Clerks
B521 Computer Operators	C181 Computer and Network Operators and Web Technicians
C047 Computer Engineers	C047 Computer Engineers (except Software Engineers)
	C073 Software Engineers
C062 Computer Systems Analysts	C071 Information Systems Analysts and Consultants
	C072 Database Analysts and Data Administrators
	C075 Web Designers and Developers
C063 Computer Programmers	C074 Computer Programmers and Interactive Media Developers
	C181 Computer and Network Operators and Web Technicians
	C182 User Support Technicians
	C183 Systems Testing Technicians
C131 Civil Engineering Technologists and Technicians and Construction Estimators	C131 Civil Engineering Technologists and Technicians
	C134 Construction Estimators
D313 Other Aides and Assistants in Support of Health Services	D313 Other Assisting Occupations in Support of Health Services
E034 Health and Social Policy Researchers, Consultants and Program Officers	E034 Social Policy Researchers, Consultants and Program Officers
	E039 Health Policy Researchers, Consultants and Program Officers
G731 Attendants in Amusement, Recreation and Sport	G723 Casino Occupations
	G731 Operators and Attendants in Amusement, Recreation and Sport
G813 Early Childhood Educators and Assistants	E217 Early Childhood Educators and Assistants
G951 Elemental Medical and Hospital Assistants	D313 Other Assisting Occupations in Support of Health Services
G961 Food Service Counter Attendants and Food Preparers	G961 Food Counter Attendants, Kitchen Helpers and Related Occupations
G962 Kitchen and Food Service Helpers	G961 Food Counter Attendants, Kitchen Helpers and Related Occupations
J195 Welders and Soldering Machine Operators	H326 Welders and Related Machine Operators

Note: The SOC91 codes B511 and D313 are included in this table for completeness, as they each form part of groups that have been amalgamated under the NOC-S coding system.